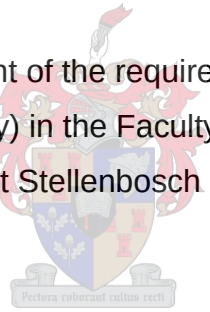
THE DEVELOPMENT AND EVALUATION OF A WORK MEANINGFULNESS STRUCTURAL MODEL

by AJ Huysamer



Thesis presented in partial fulfilment of the requirements for the degree of Master of Commerce (Industrial Psychology) in the Faculty of Economic and Management Sciences at Stellenbosch University

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DECLARATION

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ABSTRACT

Work Meaningfulness is the degree to which an individual evaluates their job as generally meaningful, valuable and worthwhile. Although important, money motivates employees only to a certain extent. In order to create intrinsic motivation, organisations should focus on providing resources and an environment that cultivate Work Meaningfulness and contribute positively to employees' lives. The effects of an employee experiencing Work Meaningfulness holds positive consequences for an organisation. When an employee experiences Work Meaningfulness, it can lead to personal engagement which in turn can lead to increased work performance.

Even though many scholars have started to develop theories around Work Meaningfulness, it remains a domain which can - and does - lead to confusion and uncertainty. This study focuses on determining which factors contribute towards Work Meaningfulness, and how these factors combine to determine the construct of interest. Based on a review of the literature, the study identified the following organisational and person variables as key antecedents of Work Meaningfulness: Job Characteristics, Job Crafting, Empowering Organisational Culture, a Sense of Calling as Work Belief and Person Environment Fit.

This study utilised an *ex post facto* correlational design to test the relationships between the variables. The target population comprised permanently employed, full time South African employees and a non-probability convenient sample of n = 204 completed the questionnaires. The psychometric properties of the utilised instruments were examined by means of item and factor analysis and were found acceptable as all six scales revealed satisfactory reliability coefficients. To evaluate the validity of the comprehensive structural model, Structural Equation modelling (SEM) was used. Although the close fit null hypothesis was rejected, it was concluded that the model obtained a reasonable fit. Support was found for all the postulated relationships in the structural model except for one. The following variables were found to have significant relationships: Job Characteristics and Work Meaningfulness; Job Crafting and Job Characteristics; Empowering Organisational Culture and Job Crafting; a Sense of Calling as Work Belief and Work Meaningfulness; Person Environment Fit and a Sense of Calling as Work Belief; and Job Crafting and Person Environment Fit. The results did, however, not support the hypothesised relationship between Empowering Organisational Culture and Job Characteristics.

With the focus of the study being on the antecedents of Work Meaningfulness, the study contributed to the existing research on Work Meaningfulness thus making it possible for other researchers to build off the findings. Based on the findings of the study, practical

recommendations and implications were suggested. The study's results could potentially be used to enhance employees' experience of Work Meaningfulness and, in turn, increase employee engagement and decrease intention to quit.

OPSOMMING

Werk-Betekenisvolheid is die mate waartoe ‘n individu hulle werk as deurgaans sinvol, waardevol en as verdienstelik evalueer. Alhoewel geld belangrik is, motiveer dit werknemers net in ‘n sekere mate. Om innerlike motivering by werknemers aan te spoor, behoort organisasies op die voorsiening van hulpbronne en ‘n omgewing waar Werk-Betekenisvolheid gekweek word, te fokus. Hierdeur maak die organisasie ‘n positiewe bydra tot die lewe van die werknemer. Die gevolg van ‘n werknemer wat Werk-Betekenisvolheid ervaar, hou positiewe uitkomste vir die organisasie in. Wanneer ‘n werknemer Werk-Betekenisvolheid ervaar, kan dit lei tot meer persoonlike werksbetrokkenheid, wat weer kan lei tot toenemende werksprestasie.

Alhoewel baie geleerdes begin het om teorieë om Werk-Betekenisvolheid te ontwikkel, bly dit ‘n domein wat tot verwarring en onsekerheid kan lei. Die studie fokus daarop om vas te stel watter faktore tot Werk-Betekenisvolheid bydra en ook hoe hierdie faktore saamwerk om die ‘konstruk van belang’ te bewerkstellig. Gebaseer op ‘n oorsig van die literatuur, het die studie die volgende organisatoriese-en persoonveranderlikes as sleuteldeterminante van Werk-Betekenisvolheid geïdentifiseer: Werkskenmerke, Werkshermodelering, Bemagtigende Organisatoriese Kultuur, ‘n Roepingsgesindheid as Werksoortuiging en Persoon-Omgewingsgepastheid.

Die studie het ‘n ex post facto korrelatiewe-ontwerp gebruik om die verwantskappe tussen die veranderlikes te toets. Die teikengroep het bestaan uit Suid-Afrikaanse werknemers met permanente en voltydse aanstellings. ‘n Nie-waarskynlikheidsteekproef van n=204 het die vraelys voltooi. Die psigometriese eienskappe van die aangewende instrumente is ondersoek d.m.v. item-en faktoranalise en is as toereikend bevind deurdat al 6 skale voldoende betroubaarheidskoëffisiënte getoon het. Om die geldigheid van die omvattende strukturele model te evalueer, is Strukturele Vergelyksmodellering (SVM) gebruik. Alhoewel die nulhipotese van benaderde passing nie verwerp kon word nie, is daar tot die gevolgtrekking gekom dat redelike modelpassing verkry is. Ondersteuning is gevind vir al die gehipotiseerde verwantskappe in die strukturele model met die uitsondering van een verwantskap. Die volgende veranderlikes het beduidende verwantskappe getoon: Werkskenmerke en Werk-Betekenisvolheid; Werkshermodelering en Werkskenmerke; Bemagtigende Organisatoriese Kultuur en Werkshermodelering; ‘n Roepingsgesindheid as Werksoortuiging en Werk-Betekenisvolheid; Persoon-Omgewingsgepastheid en ‘n Roepingsgesindheid as Werksoortuiging; en Werkshermodelering en Persoon-Omgewingsgepastheid. Die veronderstelde verhouding tussen Bemagtigende Organisatoriese Kultuur en Werkskenmerke is nie deur die resultate ondersteun nie.

Met die fokus van die studie op die determinante van Werk-Betekenisvolheid, het die studie bygedra tot bestaande navorsing oor Werk-Betekenisvolheid wat dit dus moontlik maak vir ander navorsers om op die bevindings uit te brei. Gebaseer op die bevindings van die studie, is praktiese aanbevelings en gevolgtrekkings voorgestel. Die studie se resultate kan moontlik gebruik word om werknemers se ervaring van Werk-Betekenisvolheid te verryk en wat dan weer die werknemersbetrokkenheid kan verhoog en die voorneme om te bedank kan verlaag.

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1.1 Introduction

Mankind's search for meaning has been and always will be one of man's primary life goals. According to Frankl, one of the foremost representatives of existential psychology, man's heart is restless until he has found and fulfilled meaning in his life. Without a sense of meaning, people feel unfulfilled as human beings. Frankl further states that meaning is not something that can be invented or prescribed, it is found and is personally experienced. (Meyer et al., 2008).

The search for meaning applies especially to the life domain of work. Throughout history, work has been seen as one of man's crucial experiences in life. Employees spend hours at work performing work activities and, as a consequence, the workplace becomes an environment in which man searches for meaning (Geldenhuys et al., 2014). When employees experience meaningfulness, it is likely to influence their work satisfaction and work effectiveness (Hackman & Oldham, 1976). As such, discovering the causes of Work Meaningfulness is important to the Industrial Psychology discipline that studies behaviour for the purpose of improving employee satisfaction and productivity (Woods & West, 2015).

Work Meaningfulness is a psychological state that is both a cognitive and an affective experience. The cognitive facet arises when an individual subjectively evaluates their work and workplace and believes that their work is meaningful. When an employee is satisfied with the characteristics of their job and believes their work is meaningful, it leads to a sense of well-being. Well-being includes the level of experienced meaningfulness and positive emotions the employee feels as a result of such evaluations of the work and workplace. Positive emotions therefore emerge as a consequence of subjective cognitive perceptions (Turek, 2016).

Work Meaningfulness should not, however, be confused with the term "meaning in work". Work Meaningfulness and meaning in work both refer to the state where an employee makes sense of their work and finds significance in it, but the latter can also refer to different types of meaning employees experience when they work. This study will therefore use the term "Work Meaningfulness" and focus on the amount of significance employees find in their work.

Various developments over the last century have led to the current emphasis on Work Meaningfulness. The industrialisation era in the 19th century included mass production in factories, cheap labour, repetitive work tasks and long working hours (Vinchur & Koppes, 2010). Employees were seen as instruments of production in which the focus was on

production and outcomes. This resulted in a decline in the workers' will to work and the loss of meaning in their jobs (Vinchur & Koppes, 2010).

The Hawthorne studies are highlighted as the significant trigger for the shift between the mechanistic and output-driven approach that organisations followed to a more humanistic approach (Vinchur & Koppes, 2010). The Hawthorne studies that were conducted in the 1920s by Elton Mayo discovered that changes in working conditions (lighting or room temperature) and work changes (payment or supervision) led directly to an increase in productivity levels. Consequently, the increase in output due to such interventions was referred to as "the Hawthorne effect". Mayo believed that the increased attention employees received through these interventions were the cause for the productivity increase (Woods & West, 2015). As a result of the Hawthorne studies, a growing trend emerged which considers workers' rights and employee welfare.

This trend continued into the post-industrialisation era where the focus shifted to the employees and their attitudes towards work. (Schreuder & Coetzee, 2016) Employees' subjective experiences in the workplace became more important with the realisation that intrinsic motivation is just, if not more, important as extrinsic motivation. Intrinsic motivation entails the inclination toward assimilation, mastery, genuine interest and exploration. To this effect, challenging oneself, extending and exercising one's capacities, exploring, as well as learning, started to receive more attention in organisations (Deci & Ryan, 2000).

1.2 Relevance For Organisations

The Work Meaningfulness an employee experiences can vary from one employee to another and holds consequences for the individual and the organisation (Rosso et al., 2010). When an employee experiences Work Meaningfulness, it can lead to personal engagement at work which, in turn, positively affects the organisation, as it can lead to increased work performance (Fouché et al., 2017). Personal engagement can be defined as the individual's investment in their job (Kahn, 1990). The individual invests their time and energy into the job and expresses themself physically, emotionally and cognitively. The physical component refers to the individual being physically present and involved in tasks, while the emotional component refers to the individual being connected and dedicated to the job. The cognitive component refers to the individual being alert and to the level of absorption the individual experiences (Kahn, 1990). When an individual evaluates their work as being significant and attaches meaning to it, they become invested in their job which then leads to higher levels of engagement and satisfaction. As a result, employees will increase their performance since they are physically present and involved in their tasks; they are emotionally attached and dedicated to the job, as

well as being more alert and reactive. This, in turn, holds positive consequences for the organisation as an increase in work performance evidently affects the organisation's bottom line in a positive way.

Furthermore, when an employee experiences a lack of Work Meaningfulness, it causes the employee to experience stress and feelings of uncertainty and frustration, which is a consequence of the employee searching for significance in their work, but not finding it (Fouché et al., 2017). Stress can be defined as a condition in which the employee is faced with an opportunity, constraint or demand on being, doing or having what one desires (Cordes & Dougherty, 2011). Thus, the employee desires Work Meaningfulness, but is faced with the constraint of searching for Work Meaningfulness and not finding it, which causes stress. Burnout can be considered as a reaction to this constant stress and is defined as a persistent negative state of mind in working individuals that is characterised primarily by exhaustion, detachment and low efficacy (Fouché et al., 2017; Schreuder & Coetzee, 2016). Therefore, one can infer that when the individual lacks Work Meaningfulness, the individual experiences stress, uncertainty and frustration, and as a result the employee may experience burnout which is portrayed by exhaustion, detachment and inefficacy.

As stated above, an employee who experiences burnout portrays exhaustion, detachment and lack of efficiency. Exhaustion can be described as having a lack of energy and feeling drained. Furthermore, the employee dreads retuning to work for another day. Another symptom the employee might portray is detachment. The employee becomes less enthusiastic and cynical towards clients, co-workers and the organisation (Cordes & Dougherty, 2011). The last symptom is feelings of incompetence and inefficiency. The employee will doubt their abilities and be less likely to believe in their ability to successfully complete a task. As a result, employees will not set high-challenging goals for themselves which sets them up for achieving less than they actually can achieve (Fouché et al., 2017). As a result of feeling emotionally drained, detached and incompetent, the employee may develop a negative perception of their job. Consequently, the employee will start thinking about quitting. This is in agreement with previous studies that have found that burnout is positively associated with intention to quit (Cordes & Dougherty, 2011; Jackson et al., 1986). Intention to quit refers to an individual's planned and voluntary intent to leave the organisation (Fouché et al., 2017). When intention to quit increases across a number of employees, absenteeism and turnover can increase which may lead to rising recruiting and training costs for the organisation (Fouché et al., 2017). From the above, one can conclude that a lack of meaningfulness can cause an employee to experience burnout, which can lead to increased intention to quit.

1.3 Research Question

As argued above, fostering Work Meaningfulness will improve the likelihood of organisations reaching their objectives because employees are engaged and motivated to meet their own work goals which are aligned with those of the organisation. It is therefore crucial for an organisation to cultivate an environment that would be perceived as meaningful by its employees. From the above, the conclusion can be made that organisations also have a role in their employees' search for Work Meaningfulness as employees develop Work Meaningfulness in healthy work environments (Görgens-ekermans & Steyn, 2017).

The two important questions are :

1) How do employees develop a sense of meaningfulness in their work?

2) How can healthy work environments be cultivated where Work Meaningfulness can be developed?

Although many scholars have started to develop theories around Work Meaningfulness with the proliferation of positive psychology, it continues to be an area which causes confusion and uncertainty. Integrative models that include the combined factors contributing to Work Meaningfulness are still an aspect that needs more investigation (Rosso et al., 2010). It would therefore be beneficial to find out if there are universal factors that cause Work Meaningfulness, and how these factors combine to determine Work Meaningfulness. Insight into the psychological mechanism driving meaningfulness will equip management to improve the organisation's bottom line. From the information given above, the research-initiating question emerged as "what causes employees to experience Work Meaningfulness in the workplace?"

1.4 Research Objectives

To answer the research question, objectives for the study were set. The first objective of this study was to enhance the understanding of Work Meaningfulness and to identify person and situational factors that influence Work Meaningfulness. The second objective was to develop a structural model that explains how these identified factors are interconnected and how they influence Work Meaningfulness.

1.5 Overview of the study

Chapter 1 outlines the definition of Work Meaningfulness and its relevance in organisations. In addition, the research question and objectives for the study were formulated. Chapter 2 provides an overview of the literature and concludes with research hypotheses concerning the

interconnected causes of meaningfulness – culminating in a structural model that shows how the different identified variables are connected. Chapter 3 explains the methodology that was followed to validate the formulated structural model. This chapter discusses the statistical hypothesis, research design, the sample, how the data was collected and the utilized measurement instruments. Chapter 4 reports on the results found, based on the methodology followed. The chapter evaluates each measurement scale, as well as the comprehensive measurement model and comprehensive structural model. Finally, Chapter 5 concludes the study. The overall results of the study, the limitations of the study, practical implications and recommendations are discussed.

CHAPTER 2: LITERATURE STUDY

2.1 Introduction

Chapter 1 gave a background of the study, defined the definition of Work Meaningfulness and outlined the research question and objectives. Without a sense of meaning, people feel unfulfilled as human beings (Meyer et al., 2008). This applies to the world of work too. Employees spend plenty of time performing work activities and as a consequence, employees search for meaning within their work and environment (Geldenhuys et al., 2014). In this study, Work Meaningfulness refers to a psychological state that is both a cognitive and an affective experience (Turek, 2016). The focus is on the amount of significance employees find in their work.

Chapter 2 discusses the relevant literature and research that relates to Work Meaningfulness. The aim of discussing the literature is to uncover the variables that influence Work Meaningfulness and develop an explanatory structural model that explains how the variables connect to determine Work Meaningfulness.

2.2 Exploration Of Work Meaningfulness

The concept of Work Meaningfulness refers to the overall level of significance an individual experiences in their work. More broadly, Work Meaningfulness refers to the overall process through which individuals evaluate how important and positive their work is in terms of value (Hackman & Oldham, 1976).

Frankl (1965) stated that man's main concern is not to gain pleasure and avoid pain, but rather to find meaning in his life (Rosso et al., 2010). As such, Work Meaningfulness is seen to have an eudaimonic focus, rather than a hedonic focus. A hedonic focus emphasises the maximising of pleasure and self-interests (Ryan & Deci, 2001). The eudaimonic approach, however, focuses on growth and self-actualisation rather than maximising pleasure. When the individual evaluates their job and environment while taking their work value and purpose into account, a positive work evaluation emphasises an eudainomic approach (Turek, 2016).

An eudainomic approach emphasises self-actualisation and growth, discovering one's potentials, choosing goals that can provide personal meaning and purpose and the fulfilment of personal expressiveness. Waterman (1993) suggested when people's life activities are aligned with their values, people feel alive and authentic. This can be labelled as personal expressiveness (Ryan & Deci, 2001). Work Meaningfulness is associated with an eudaimonic approach as it relates to the individual's life content and process of growth and finding meaning.

Seligman (2002) found that money is steadily losing its power as the central motivator of employees due to employees realising that money contributes little to their life content (Geldenhuys et al., 2014). Money only motivates the employee to a certain extent. Once the employee has reached a certain point beyond poverty and has therefore fulfilled physiological and security needs, wealth adds little to employee well-being. Intrinsic motivation takes over and fulfilling goals that are connected with psychological needs become more important as these enhance well-being (Ryan & Deci, 2001). Thus, when employees reach the point beyond poverty, organisations should rather motivate employees in ways other than simply using money to satisfy their psychological needs. Organisations should focus on providing resources and an environment to cultivate Work Meaningfulness and contribute positively to employees' lives (Geldenhuys et al., 2014).

Frankl (1965) claims that one's search for meaning is a unique process that can only be fulfilled by oneself. Chirkov, Ryan, Kim and Kaplan (as cited in Geldenhuys et al., 2014) support this by saying the search for meaning is a self-determined behaviour. Rosso, Dekas and Wresniewski (2010) further support this by stating that perceptions of meaning are derived from individuals' subjective interpretations of work experience. Individuals assess the meaning of work for themselves.

Since Work Meaningfulness can be referred to as the subjective feeling that one's actions are of significance in the workplace, the responsibility to build meaning into a job not only falls on the organisation, but on the individual as well. Individuals are aware of how meaning in work can contribute to their personal growth and how it helps them to understand themselves and the world around them better (Fouché et al., 2017). When individuals are aware of Work Meaningfulness and have greater good motivations, they can use it to change aspects of their job to create Work Meaningfulness for themselves. When individuals have "greater good" motivations, the individual has a desire for their work to make a difference to others, to be meaningful to the environment and to have a positive influence (Fouché et al., 2017). Organisations also have a responsibility. In order for individuals to change aspects of their jobs, organisations need to be flexible and give autonomy to their employees. From the above we can conclude that both the individual and the organisation need to act together to achieve the experience of Work Meaningfulness.

2.3 A Theoretical Framework to Find Meaningfulness

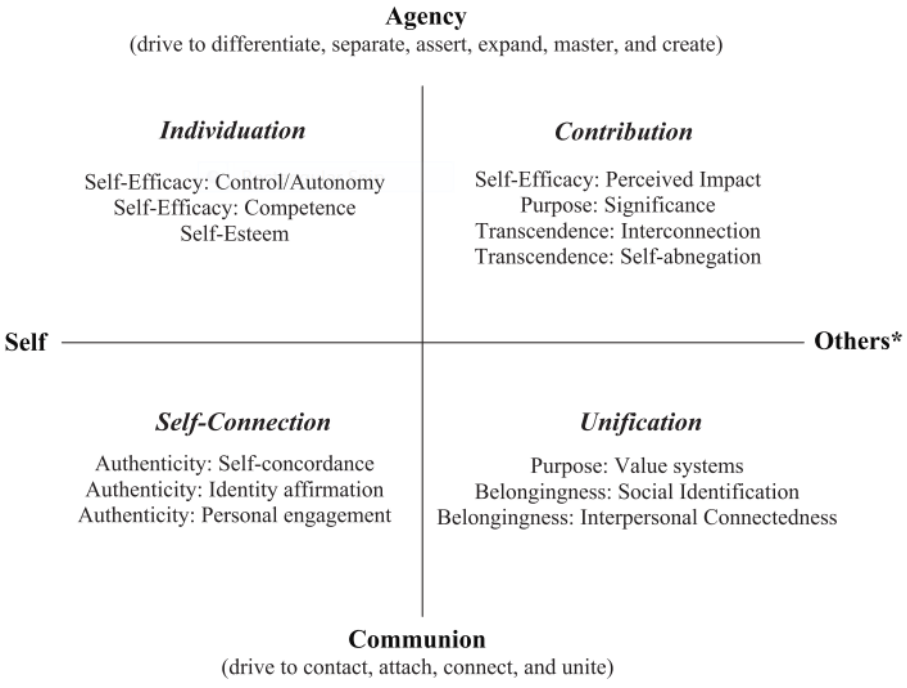
Rosso, Dekas and Wrzesniewski (2010) created a model that integrates their research on sources and mechanisms of Work Meaningfulness. The model includes the intersection of two dimensions: the self-other dimension and the agency-communion dimension. The self-other

dimension is based on the target of creating Work Meaningfulness. The target can be directed at the self or towards others. Others include other individuals, groups, organisations or higher powers. The agency-communion dimension is based on the different ways people approach their work and the activities associated with their work. When pursuing agency, people are driven to differentiate, separate, expand, assert, master and create. On the other hand, people are also driven to pursue communion. People are therefore also driven to attach, connect and unite (Rosso et al., 2010).

As seen in Figure 2.1, the two dimensions create four quadrants that describe the pathways to meaningful work: Individuation, self-connection, contribution and unification. Individuation is marked by control, competence and self-efficacy. This quadrant reflects the actions that individuals take to perceive the self as valuable and worthy. The Self-connection quadrant is marked by identity affirmation and personal engagement. This reflects the actions individuals take to come closer to aligning themselves with how they see themselves and the way they interact with others. The Contribution quadrant refers to the individual's belief in having a significant impact on others, as well as the individual's actions that are in service of something greater than the self. The last quadrant, Unification, is expressed through value systems, interpersonal connections and social identity. This quadrant refers to the individual's actions which bring them closer and into harmony with other beings (Rosso et al., 2010). Although individuals create their own Work Meaningfulness through their evaluations, perceptions and experiences, organisations can help individuals create meaningfulness by offering opportunities for individuals to interact in all four quadrants (Dik et al., 2013).

Figure 2.1

Four pathways to Work Meaningfulness



Note. From **"**On the meaning of work: A theoretical integration and review," by B.D. Rosso, K.H. Dekas, & A. Wrzesniewski, 2010, *Research in Organizational Behavior*, *30*(C), p. 91–127. Reprinted with permission.

The model suggests that people find Work Meaningfulness in different ways. Although the model provides a valuable framework of different theories on meaningfulness, it does not provide organisations with a clear picture as to how exactly meaningfulness can be developed on a practical level. Whereas the Rosso et al. model focuses on different views of meaningfulness, the current study seeks to find a more universal explanation for meaningfulness – found in certain personal characteristics and organisational features. The study does acknowledge the different "pathways" but does not see these as necessarily exclusive mechanisms. As will be explained later, the structural model developed in this study incorporates most, if not all, of these quadrants (i.e. pathways to Work Meaningfulness).

2.4 Antecedents of Work Meaningfulness

Work Meaningfulness varies in employees. The variance in Work Meaningfulness is not a random event. It is not, therefore, by chance that Work Meaningfulness varies in different employees. Work Meaningfulness can be determined by an interconnected nomological network of variables that is based on the nature of the person and their environment (*Psychometrics class notes*, 2016).

This section will attempt to identify and understand the variables that determine Work Meaningfulness as well as understand how these variables connect in order to determine Work Meaningfulness. It is important to note that the meaning/understanding of Work Meaningfulness is not situated at a specific point in the nomological network, but it is rather distributed across the whole network. The understanding of Work Meaningfulness will therefore depend on how the interconnected nomological network is taken apart and studied in a logical order (*Psychometrics class notes*, 2016). In summation, the aim of this section is therefore to develop a structural model that explains Work Meaningfulness which is as close to reality as possible. The proposed variables that influence Work Meaningfulness will be discussed. These variables include: Job Characteristics, Job Crafting, Empowering Organisational Culture, a Sense of Calling as Work Belief and Person Environment Fit.

2.4.1 Job Characteristics

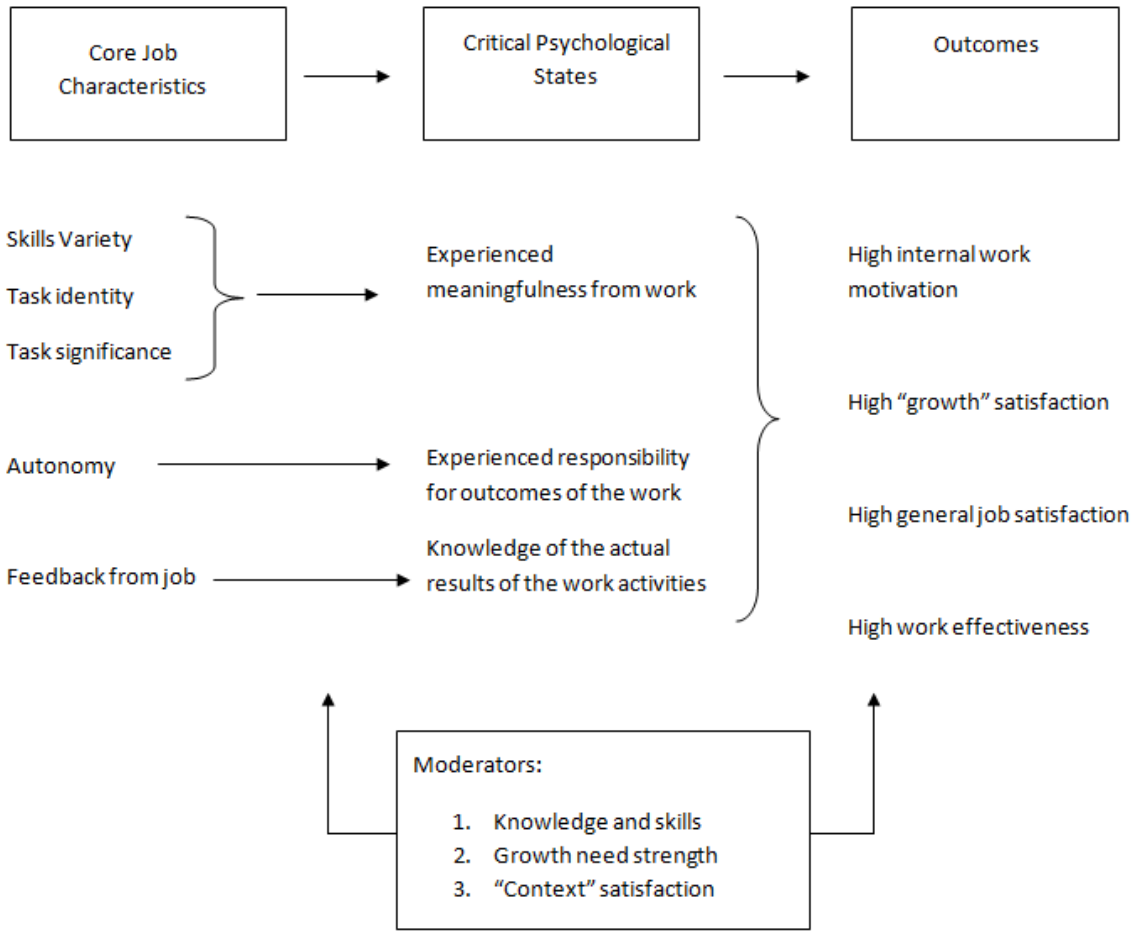
As stated in a previous section, Work Meaningfulness can be determined by interconnected variables which are based on the nature of the person and their environment (*Psychometrics class notes*, 2016). Therefore, Work Meaningfulness can be partially experienced as a result

of the context individuals work in. Characteristics of an individual's job contribute to the factors that make up the work context and are, as a result, able to influence Work Meaningfulness.

The Job Characteristics Theory developed by Hackman and Oldham emerged due to research concerning motivation and job enrichment (Hackman & Oldham, 1976). The Job Characteristics Model defines jobs in terms of five dimensions leading to certain psychological states which, in turn, lead to positive work outcomes. Figure 2.2 presents the Job Characteristics Model.

Figure 2.2

The Job Characteristics Model



Note. From "Motivation through the design of work: test of a theory" by J.R. Hackman, & G.R. Oldham, 1976, *Organizational Behavior and Human Performance*, *16*(2), p. 250–279. Reprinted with permission.

For this study, the focus will be on the three Job Characteristics that interact and lead to the psychological state of experienced Work Meaningfulness. These three Job Characteristics are Skill Variety, Task Identity and Task Significance.

Skill Variety refers to the extent to which a job demands a variety of different activities during the work performance. This would require an individual to use a variety of talents and skills. When a job requires an individual to use different skills and talents to complete a task which is challenging and involves stretching their skills and abilities, the individual will feel there is potential to grow and improve themself. It is therefore likely that the job will become meaningful to the individual (Hackman & Oldham, 1976).

Task Identity can be defined as the extent to which a job requires the completion of a whole set of tasks from beginning to end (Cummings & Worley, 2015). A job will be more meaningful if an individual is able to complete the job from beginning to end and observe the final product, instead of carrying out only a small part of a job and not knowing what the final product looks like. By observing the final product, an individual will be given the opportunity to feel satisfied and proud of their work and could consequently increase the chance for them to experience Work Meaningfulness.

Task Significance is the degree to which a job has an impact on people's lives (Cummings & Worley, 2015). When employees are able to observe how their work influences and impacts other people, they feel more responsible for how their work affects others. This can lead to the employee experiencing Work Meaningfulness. Hackman and Oldham (1976) support this argument and state that if an employee understands that their work has a significant effect on others, their Work Meaningfulness is enhanced. They use the example of an employee who tightens the nuts on aircraft brakes and an employee who packs boxes with paper clips. The employee who tightens the brakes will experience more Work Meaningfulness if he understands that this work contributes to the safety of the aircraft and therefore impacts the lives of many people (Hackman & Oldham, 1976).

To summarise, the Job Characteristics Model developed by Hackman and Oldham proposes that Work Meaningfulness is likely to be experienced when Skill Variety, Task Identity and Task Significance are present in a job. In addition, Kahn (1990) states that Work Meaningfulness can be achieved if jobs provide challenging work, allow the use of a variety of skills and talents, encourage employees to make their own decisions and give employees the opportunity to make valuable contributions (Kahn, 1990). Kahn (1990) and Hackman and Oldham (1980) both agree that Job Characteristics therefore influence Work Meaningfulness.

Hypothesis 1: Job Characteristics (Skill Variety, Task Identity and Task Significance) positively influence Work Meaningfulness.

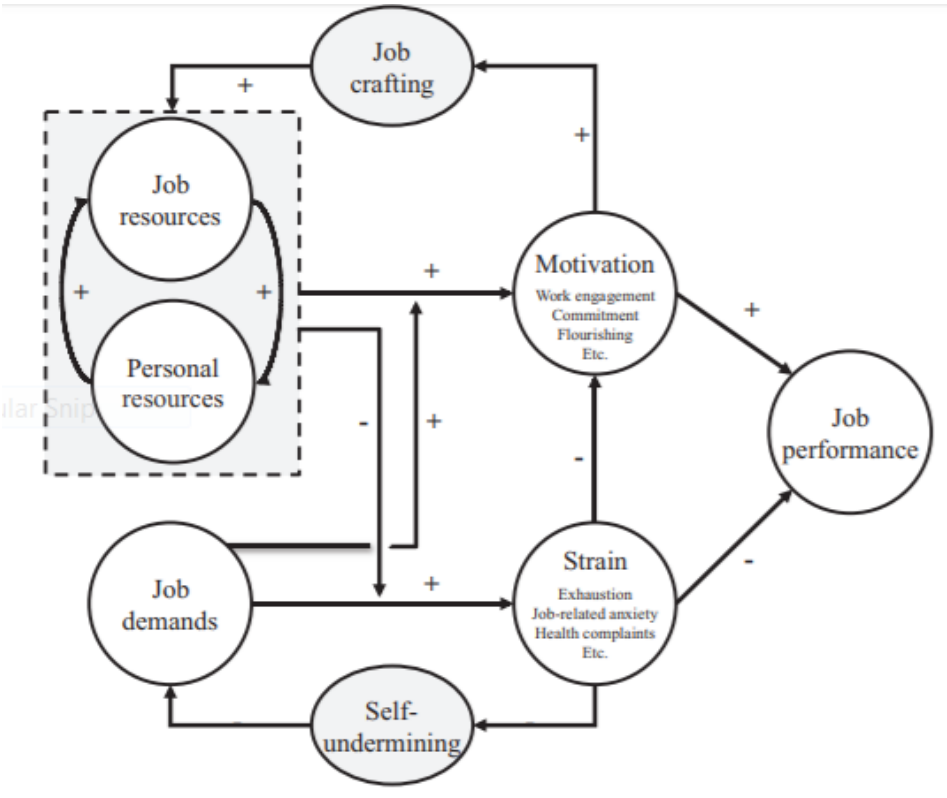
2.4.2 Job Crafting

The Job Demands-Resources (JD-R) model also recognises Job Characteristics in the work environment. The main assumption underlying the JD-R model is that Job Characteristics in work environments are divided into job resources and job demands. Job resources can be defined as those physical, psychological, social or organisational aspects of the job that help individuals achieve their work goals as well as reducing job demands. These resources are associated with personal growth, psychological well-being and development. Job demands can be defined as those physical, psychological, social or organisational aspects of the job that require effort and are therefore linked to certain stress-related psychological consequences. Examples of job demands include: poor work conditions, role ambiguity, work overload and pressure of deadlines (Bakker, Demerouti, & Verbeke, 2011).

A further assumption of the JD-R model is that two psychological processes are evoked as a result of the interaction between job demands and resources. The first process is a health impairment process where job demands are higher than job resources and can lead to burnout. The second process is a motivational process which leads to growth, development, engagement and self-actualisation. This process is activated when job resources are higher than job demands (Bakker & Demerouti, 2017). The JD-R model is presented in Figure 2.3 below.

Figure 2.3

The Job demands - resource model



Note. From " Job demands-resources theory: Taking stock and looking forward. " by A. Bakker, & E. Demerouti, 2017, *Journal of Occupational Health Psychology*, *22*(3), p. 273–285. Reprinted with permission.

According to the JD-R model theory, Job Crafting can help to activate the motivational process. Job Crafting is when an employee makes self-initiated changes to certain aspects of their job to satisfy their own needs and wants, and balances their job resources and demands. Employees can make changes in their work tasks, their relationships at work and their cognitions regarding their work (Bakker et al., 2011). Job Crafting can therefore be divided into three facets: Task, Relational and Cognitive Crafting. Task Crafting is when the employee changes certain conditions or behaviours at work. This includes dropping or adding tasks, or adjusting the time and effort that is spent on certain tasks (Kim et al., 2018). Relational and Cognitive Crafting will be explained in more detail in the sections to follow.

When an employee experiences their Job Characteristics as being too demanding, it can lead to the employee experiencing stress and burnout. The employee can then use Job Crafting (Task Crafting) to decrease the demanding characteristics and increase job resources which will buffer the effects of the demanding Job Characteristics and lead to job satisfaction. If the employee feels the job is under-stimulating and feels bored in the job, employees can use Job Crafting (Task Crafting) to create more responsibilities for themselves, which can lead to more motivation and personal growth. When employees use Job Crafting to select and create an environment that is more suited to their needs, it positively affects their job.

Hypothesis 2: Job Crafting (Task Crafting) positively influences Job Characteristics.

2.4.3 Empowering Organisational Culture

Organisational culture can be defined as the extent to which the whole organisation shares mutual beliefs, perceptions and expectations (Lee et al., 2017). These mutual beliefs, perceptions and expectations characterise how the organisation operates and solves its problems (Lee et al., 2017). This study will discuss two organisational cultures, namely: a hierarchical culture and an empowering culture. These two cultures can create two contrasting working environments which affect the Job Characteristics of employees.

A hierarchical culture is characterised by high centralisation and formalisation. It has a top-down approach in which top management makes all the decisions while the employees do not have a say in decision-making and they obey the rigid orders from above. The resulting imbalance of power and authority results in employees who do not have much freedom or confidence in their abilities due to management that controls all tasks (Lee et al., 2017). When reassessing the JD-R model, a hierarchical culture will influence an employee's Job

Characteristics negatively as job demands will be higher than job resources. Job demands in a hierarchical culture will include ambiguity due to a lack of shared information because only management makes decisions. Additional consequences will be a lack of autonomy and self-efficacy. Since management retains absolute control of all tasks, employees do not have the freedom to make choices, grow and develop. To summarise, a hierarchical culture is likely to have a negative effect on job characteristic and cause resultant dissatisfaction among employees.

This study focuses on an Empowering Organisational Culture as this culture emphasises the employees' well-being and is characterised by a management structure which consults with employees and involves them in decision-making regarding delegation of power and authority. Employees have more autonomy and leaders empower the employees by holding them accountable for their work. This, in turn, gives employees more self-confidence as they are reassured that their leaders believe in their ability (Lee et al., 2017).

When employees have autonomy and power is delegated to them, they have the opportunity to decide which skills and talents they use and develop. Consequently, this will give the employee the chance to use and develop a variety of skills and talents in the workplace. Furthermore, Task Identity is also impacted. As a result of the employees having autonomy and power, they can consult and negotiate with management to dictate the extent to which their job is completed. The ideal would be that the employee does the job from beginning to end to observe the final product, rather than contributing only to a small part of a job. Lastly, when management consults with employees and involves them in decision-making, it has the potential to create Task Significance as employees' understanding of how their job impacts and influences management, co-workers and clients may increase.

Based on the above, it can be concluded that an empowering culture can facilitate a healthy work environment and positively influence Job Characteristics.

Hypothesis 3: Empowering Organisational Culture positively influences Job Characteristics.

From the above hypothesis, it can be inferred that an Empowering Organisational Culture is characterised by autonomy, flexibility, employee involvement and employee ownership. The presence of autonomy, flexibility, employee involvement and employee ownership will make it possible for the employee to change certain aspects of their job to suit their own needs, wants and preferences (Lee et al., 2017). Therefore, it is reasonable to argue that:

Hypothesis 4: Empowering Organisational Culture positively influences Job Crafting.

2.4.4 Sense of Calling as a Work Belief

People attribute different meanings to their jobs. These different meanings are formed by the individual's beliefs about work in general. Theorists have proposed that people see their work as a job, as a career or as a calling (Rosso et al., 2010). Those who see their work as a job value the material benefits and enjoy their time away from work. Those who see their work as a career enjoy prestige, status and increased remuneration. Lastly, those who see their work as a calling, work for the fulfilment that their work brings them. They are not primarily interested in financial rewards or advancements. Work is viewed as an end in itself, not as a means to an end (Rosso et al., 2010).

A Sense of Calling can be described as a "meaningful beckoning toward activities that are morally, socially and personally significant" (Rosso et al., 2010, p. 99). A person's calling develops in accordance with their work and is unique for each person (Rosso et al., 2010). Wrzesniewski (as cited in Rothmann & Hamukang'andu, 2013) believed a Sense of Calling could be developed in three ways. The person could firstly "feel or hear" their calling from a sacred source. Secondly, they could look introspectively to connect with themselves and find information about themselves that guides them towards their calling. Lastly, individuals can craft their work so that there is a fit between themselves and their job and then develop a sense of calling from such crafting (Rothmann & Hamukang'andu, 2013).

A Sense of Calling is not something one develops at any single moment. It is rather an ongoing process that requires the individual to continuously evaluate the purpose and meaning of their job, as well as their contribution to society (Rosso et al., 2010). Therefore, it is reasonable to propose that a Sense of Calling is not a fixed construct. It is an evolving construct that develops and changes over time. This corresponds with the construct of personal growth. Personal growth is the continued development of an individual, realising one's potential and expanding as a person to improve oneself (Ryff, 1989). When a person is discovering their Sense of Calling and continuously evaluating himself and their work, it increases the likelihood for personal growth to happen as the individual does introspection. When doing introspection, the individual can realise their potential and consequently strive for self-actualisation. The personal growth and Sense of Calling construct relates to the eudainomic approach which is associated with Work Meaningfulness. The eudaimonic approach emphasises self-actualisation, growth, discovering one's potentials and choosing goals which can provide personal meaning and purpose.

People with a Sense of Calling view their work as significant and a contribution to the greater society (Rothmann & Hamukang'andu, 2013). Hirschi (2012) stated that a Sense of Calling should be referred to as an antecedent to Work Meaningfulness because people with a Sense

of Calling perceive their work as significant and it provides people with a sense of purpose in their work. This enhances the individual's judgement of their work as meaningful (Rothmann & Hamukang'andu, 2013). Berg, Grant and Johnson (as cited in Rosso et al., 2010) confirmed this by stating that when individuals are granted opportunities to act on their callings, they perceive their work as more meaningful because the individual experiences personal fulfilment through contributing to the greater society. These statements indicate that it would be reasonable to argue that a sense of calling influences Work Meaningfulness.

Hypothesis 5: A Sense of Calling as Work Belief positively influences Work Meaningfulness.

2.4.5 Person Environment Fit

Person Environment (P-E) fit can be defined as the compatibility of the individual with his work environment (Kristof-brown et al., 2005). Fit can be described as the "similarity, need-supplies, and demand-ability match" (Kristof-brown et al., 2005, p. 282). Fit is determined by assessing skills, needs, preferences, values, personality traits, goals and attitudes. The Person-Environment (P-E) fit theory includes many forms of fits, namely: Person-Organisation (P-O) fit, Person-Job (P-J) fit, Person-Group (P-G) fit and Person-Supervisor (P-S) fit (Kristof-brown et al., 2005). This study will focus on Person- Job (P-J) fit and Person-Organisation (P-O) fit.

P-J fit can be referred to as the extent to which there is a relationship between an individual's characteristics and those of the job or tasks that the individual performs at work (Kristof-brown et al., 2005). Edwards (as cited in Kristof-brown et al., 2005) described two approaches to the P-J fit: the demand-abilities match and the need-supplies match. The demand-abilities match occurs when there is a match between the individual's knowledge, skills and abilities and the job requirements and role expectations. The needs-supplies match occurs when the individual's needs, desires and preferences match with what is being supplied in their environment and job (Edwards et al., 1998).

The P-O fit addresses the compatibility of the individual and the organisation. Tom (1971) suggested that when individuals' and organisations' personalities match, the individual will be successful, but Chatman (as cited in Kristof-brown et al., 2005) turned the focus of P-O fit to values, and as a result value congruence became the widely accepted definition of P-O fit. Chatman (as cited in Kristof, 1996) reasoned that values symbolise a more permanent, important and relatively stable aspect of people and organisations.

Value congruence exists when the individual's values and the organisation's values correspond (Chatman, 2011; Rosso et al., 2010). Individuals and organisations both have their own unique values. The individual's values refer to a person's beliefs that act as a code of

conduct and guide one's behaviour (Chatman, 2011; Rosso et al., 2010). In other words, values act as an individual's compass which guides their behaviour and helps them make decisions. Similarly, organisations promote certain values that indicate to employees what is expected of them in their specific job roles. When value congruence exist, individuals are able to express their true selves and act in a manner that is consistent with their own beliefs (Chatman, 2011; Rosso et al., 2010).

As stated in a previous section, an individual's calling develops in accordance with their work (Rosso et al., 2010). In other words, an individual's calling is influenced by the work they do and the environment in which they work. Therefore, the likelihood that an individual's belief about their work changes from job or career to a Sense of Calling increases when an individual experiences Person- Job (P-J) fit and Person-Organisation (P-O) fit.

As previously stated, a Sense of Calling can be defined as a "meaningful beckoning toward activities that are morally, socially and personally significant" (Rosso et al., 2010, p. 99). When an individual's values match with an organisation's values and the individual feels their job contributes to others and society, their work has the potential to become morally, socially and personally significant and therefore the individual can develop a Sense of Calling. Dik and Duffey (as cited in Rothmann & Hamukang'andu, 2013) supports this statement by arguing that people with Person-Job (P-J) fit and Person-Organisation (P-O) fit will see their work as not only a means to an end but an end in itself and therefore a calling. The following hypothesis is therefore proposed:

Hypothesis 6: Person Environment Fit positively influences a Sense of Calling as Work Belief.

Employees can use Job Crafting as a way to improve Person Environment Fit. As previously discussed, the three facets of Job Crafting are Task, Relational and Cognitive Crafting. Employees can use Task Crafting to improve their P-J fit (Kim et al., 2018). Employees can develop certain skills and abilities or gain knowledge to match the job requirements and role expectations. This may then result in a demand-abilities match. In addition, employees can add or drop certain tasks according to their needs, desires and preferences. In turn, this will lead to a needs-supplies match.

Employees who use Cognitive Crafting and Relational Crating can enhance their P-O fit. Cognitive Crafting happens when employees change their perceptions, judgements and attitudes towards their job. Therefore, when employees change their perceptions and attitude towards the organisation, their identification with the organisation will increase which will enhance the value congruence between the employee and the organisation (Kim et al., 2018).

Relational Crafting refers to the control employees have over their interpersonal relationships at work (Kim et al., 2018). This means employees can choose to increase or decrease interaction with others. When employees choose to build relationships and increase interaction with employees who live out the company values, the identification with the organisation and the organisation's people will increase which could enhance the value congruence between the organisation and the employee (Kim et al., 2018). It is therefore reasonable to argue that:

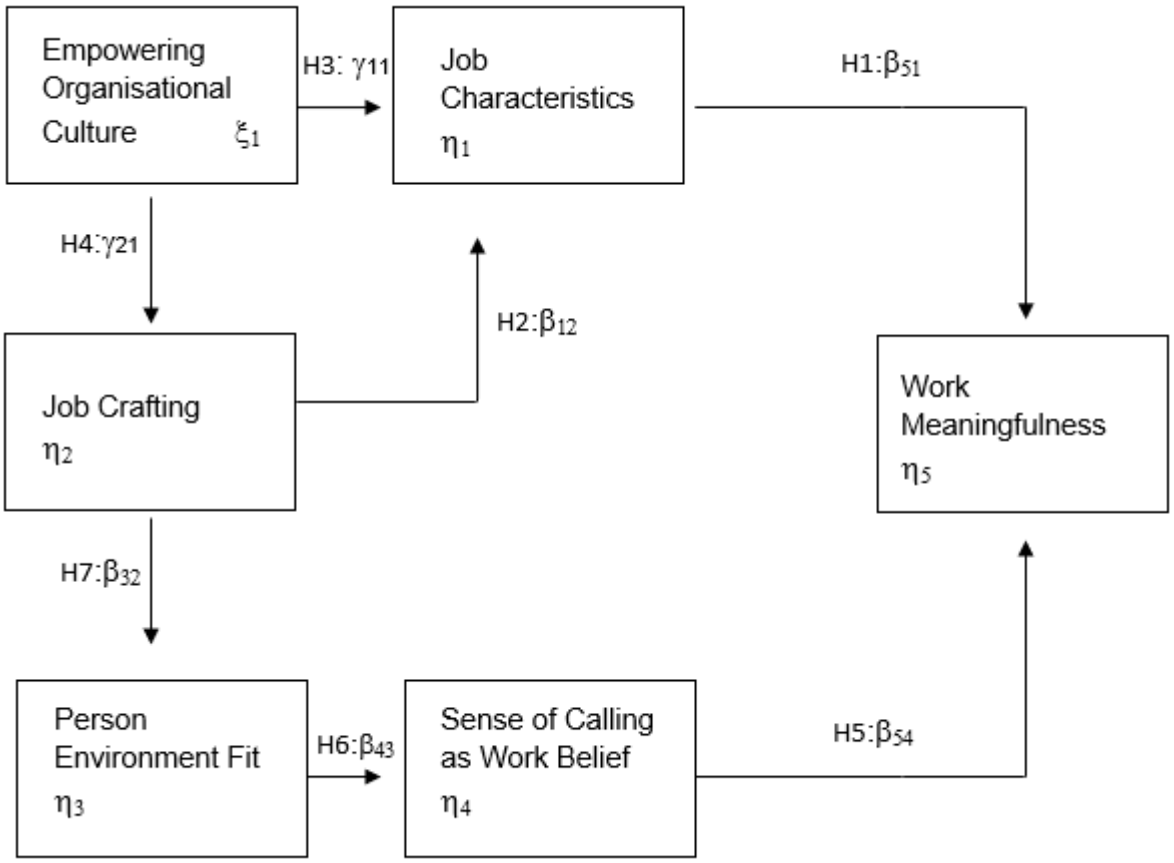
Hypothesis 7: Job Crafting (Task, Cognitive and Relational Crafting) positively influences Person Environment Fit.

2.5 The Proposed Work Meaningfulness Structural Model

The hypotheses formulated in this chapter culminate in a structural model. The structural model recognises the complexity of the psychological mechanism determining employees' level of Work Meaningfulness. The structural model also allows for the model to be tested empirically using structural equation modelling. If the model is found to be a plausible representation of reality, it can be used to enhance employees' Work Meaningfulness. The proposed structural model is presented in Figure 2.4 below.

Figure 2.4

The proposed Work Meaningfulness structural model



When referencing Rosso, Dekas and Wrzesniewski's (2010) model that describes the pathways to Work Meaningfulness, it can be seen that the structural model developed in Figure 2.4 incorporates most of the model's quadrants. The contribution quadrant, which refers to the individual's belief in having a significant impact on others, covers a sense of calling and Task Significance as both involve contribution towards the greater good and impacting other people's lives. The unification quadrant, which refers to value systems and social identity, covers Person Environment Fit. The P-O fit is emphasised when an employee's values and an organisation's values correspond, value congruence exists. Furthermore, the individuation quadrant, which refers to autonomy and self-efficacy, covers the Empowering Organisational Culture and Job Crafting. An Empowering Organisational Culture, which includes delegating power and consulting with employees, increases employees' self-efficacy as they believe leaders trust their ability (Lee et al., 2017). Additionally, when employees have autonomy and control, they are able to craft their job. The only quadrant not covered by the model is the self-connection quadrant.

2.6 Conclusion

The aim of this chapter was to identify and discuss the variables that influence Work Meaningfulness in order to develop a structural model that explains Work Meaningfulness. Theoretical arguments were given to justify the inclusion of certain variables in an interconnected nomological network of factors that is believed to determine Work Meaningfulness. These variables include Job Characteristics, Job Crafting, Empowering Organisational Culture, a Sense of Calling as Work Belief and Person Environment Fit. By finding empirical support for the structural model, it would give credence to the hypotheses, and subsequently enhance the understanding of Work Meaningfulness as a construct. The following chapter, Chapter 3, discusses how the structural model and the hypothesised relationships were tested.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The aim of the study is to answer the research question: “what causes employees to experience Work Meaningfulness in the workplace?” Following a literature review, a theoretical response to the research question was formulated and presented as a structural model with various interconnected variables postulated to influence the level of Work Meaningfulness. The structural model represents the overarching hypothesis regarding the psychological mechanism underlying Work Meaningfulness. Chapter 3 explains the methodology that was followed to evaluate the validity of the structural model.

According to the epistemic ideal of science, the validity (“truthfulness”) of the model needs to be evaluated (Babbie & Mouton, 2017). The epistemic ideal of science includes two characteristics, rationality and objectivity. Rationality in science relates to the evaluation of reasons on why claims or hypotheses should be accepted or rejected (Babbie & Mouton, 2017). For claims to be evaluated as rational, they must be submitted to the scientific community of experts. Quality is then assured through peer reviews to protect “true knowledge”. New hypotheses and claims are only accepted after the group of experts has critically examined the claims. In order to produce rational claims, objective evidence is needed (Babbie & Mouton, 2017). Objective evidence is produced through objective methods and procedures. Procedures and methods are only considered to be objective if they are successful in reducing or eliminating error (Babbie & Mouton, 2017). To summarise, objectivity is a property of the procedures and methods that we use, while rationality refers to the judgements the scientific community makes.

To find objective evidence, objective procedures and methods should be used. This will increase the likelihood of rational claims/hypothesises (Babbie & Mouton, 2017). It is therefore important to clearly describe the study’s methodology in order to maximise the probability of reaching a credible verdict on the hypotheses. This chapter will focus on the substantive research hypotheses, research design, statistical hypotheses, sampling, data collection, research ethics, measuring instruments and statistical analysis.

3.2 Substantive Research Hypotheses

To empirically test hypotheses, scientists need to make known what their hypotheses are. Chapter 2 theorises about the different relationships between variables, which has culminated in the proposed structural model on Work Meaningfulness, representing various hypotheses.

Hypotheses symbolise tentative predictions between variables in structural models (Van Deventer, 2013)**.**

The overarching substantive hypothesis of this study states that the proposed structural model on Work Meaningfulness (see Figure 2.4) provides a valid explanation on what causes employees to experience Work Meaningfulness in the workplace. The overarching substantive hypothesis can be broken up into path-specific hypotheses representing the causal relationships between specific variables in the larger model. The following seven path-specific hypotheses were formulated:

Hypothesis 1: Job Characteristics (Skill Variety, Task Identity and Task Significance) have a positive linear relationship with Work Meaningfulness.

Hypothesis 2: Job Crafting (Task Crafting) has a positive linear relationship with Job Characteristics.

Hypothesis 3: Empowering Organisational Culture has a positive linear relationship with Job Characteristics.

Hypothesis 4: Empowering Organisational Culture has a positive linear relationship with Job Crafting.

Hypothesis 5: A Sense of Calling as Work Belief has a positive linear relationship with Work Meaningfulness.

Hypothesis 6: Person Environment Fit has a positive linear relationship with a sense of calling as work belief.

Hypothesis 7: Job Crafting (Task, Cognitive and Relational Crafting) has a positive linear relationship with Person Environment Fit.

3.3 Research Design

To provide credible and valid answers to the research question, a plan of action or strategy is needed (Gelo et al., 2008). The research design of a study refers to the part of the strategy concerned about the procedures and controls that will be used to empirically test hypotheses. Within the quantitative approach, there are two research designs, namely: experimental and *ex post facto* design (Gelo et al., 2008). When using the experimental design, researchers are able to manipulate or control the independent variables to observe the outcome on the dependent variable. The researcher is also able to randomly assign participants to experimental groups. The *ex post facto* design is used as an alternative, when researchers

are unable to manipulate or control the independent variables because the variables' manifestations have already occurred or are inherently not able to be manipulated (Kerlinger & Lee, 2000). Most social sciences use an *ex post facto* design because the independent variables cannot be manipulated.

This study utilised an *ex post facto* design, and more specifically a correlational research design. This is due to the constructs in this study being of such a nature that they cannot be manipulated because their manifestations have already occurred, or they are inherently not able to be manipulated. Although the *ex post facto* correlational research design is a useful alternative to experimental designs, it has limitations. With an experimental design the researcher has control over the manipulation of the independent variables. Consequently, the researcher has more confidence in the causal relations in their study as they can observe the effect the independent variables have on the dependent variables. With the ex post facto design, the researcher lacks control as the characteristics of the independent variable are "already there". Even though the structural model can show good fit indices and statistically significant path coefficients, the researcher cannot with absolute confidence conclude that the independent variables cause a change in the dependent variable. In other words, the independent variables do not necessarily imply causality. Consequently, a limitation of ex post facto design is the risk of faulty interpretations (Kerlinger & Lee, 2000).

3.4 Statistical Hypotheses

To evaluate the validity of the structural model as an overall representation of the psychological mechanism responsible for meaningfulness at work, an exact fit null hypothesis as well as a close fit null hypothesis was tested. The overarching substantive hypothesis is translated into an exact fit null hypothesis:

Overarching exact hypothesis: $RMSEA = 0$

Overarching exact hypothesis (alt.): $RMSEA > 0$

The exact null hypothesis tests the assumption that the structural model provides a perfect account of reality. This would be highly unlikely; therefore the overarching substantive hypothesis is also translated into a close fit null hypothesis:

Overarching close hypothesis: $RMSEA \leq .05$

Overarching close hypothesis (alt.): $RMSEA > .05$

The overarching substantive hypothesis was broken up into seven path-specific research hypotheses that can be translated into the following statistical hypotheses:

Hypothesis 1: Job Characteristics (Skill Variety, Task Identity and Task Significance) have a positive linear relationship with Work Meaningfulness.

$H_{01}: \beta_{51} = 0$

$H_{a1}: \beta_{51} > 0$

Hypothesis 2: Job Crafting has a positive linear relationship with Job Characteristics.

$H_{02}: \beta_{12} = 0$

$H_{a2}: \beta_{12} > 0$

Hypothesis 3: Empowering Organisational Culture has a positive linear relationship with Job Characteristics.

$H_{03}: \gamma_{11} = 0$

$H_{a3}: \gamma_{11} > 0$

Hypothesis 4: Empowering Organisational Culture has a positive linear relationship with Job Crafting.

$H_{04}: \gamma_{21} = 0$

$H_{a4}: \gamma_{21} > 0$

Hypothesis 5: A Sense of Calling as Work Belief has a positive linear relationship with Work Meaningfulness.

$H_{05}: \beta_{54} = 0$

$H_{a5}: \beta_{54} > 0$

Hypothesis 6: Person Environment Fit has a positive linear relationship with a sense of calling as work belief.

$H_{06}: \beta_{43} = 0$

$H_{a6}: \beta_{43} > 0$

Hypothesis 7: Job Crafting has a positive linear relationship with Person Environment Fit.

$H_{07}: \beta_{32} = 0$

$H_{a7}: \beta_{32} > 0$

3.5 Sampling

In most studies, it is impossible to observe the whole population in terms of the construct that is being studied. Therefore, researchers select observations that allow them to generalize within the population. This is referred to as a sample and can be defined as a subset of the population that allows researchers to make inferences about the total population without observing the total population. The sample serves as the representation of the population (Babbie & Mouton, 2017).

The target population for this study was all permanently employed, full-time South African employees. The sampling population was chosen based on accessibility and convenience. Ideally, the sample and target population should correspond. If they do correspond, it means the gap between the two groups is small and the sample population is representative of the target population. This is rarely the case in practice. The researcher should therefore try to minimise the gap between the sample and target population (Theron, 2016).

3.5.1 Sampling Procedure

Sampling procedures can be divided into two main types of sampling, namely: probability and non-probability sampling. Probability sampling is a technique in which every member of the sample population has a known probability of selection. The non-probability sampling refers to sampling procedures in which the probability of members being chosen for the sample population is unknown (Zikmund et al., 2013). This study made use of non-probability convenience sampling as the participants used were people who were conveniently available via social media. Even though convenience sampling is viewed as a weaker form of sampling (since it may be unrepresentative of the population), researchers often use this method to obtain data in a practical and cost efficient way (Zikmund et al., 2013).

3.5.2 Sample Size

The question of how large a sample should be depends on the number of freed model parameters that need to be estimated, the statistical power, as well as financial, time and logistical considerations (Theron, 2016; Hair et al., 2006). Generally, sample sizes of 200 observations or more are satisfactory (Hair et al., 2006). Factors that could influence the sample size requirements are model complexity and statistical power. Higher power requires larger samples. The power of a test can be referenced as the probability that an incorrect model will be rejected – i.e. rejecting a model that is incorrect in the population. When the statistical power is high (say 0.8 or more) the test statistics are more sensitive to specification error (i.e. an incorrect model is more likely to be rejected), but when the statistical power is low, the gross misspecification might not be detected when testing the model. Therefore it

follows that one should aim for higher statistical power (and thus higher sample sizes) since it gives additional credence to a model that is found to fit the data. (Diamantopoulos & Siguaw, 2000). However, too much power can also pose a problem because the test might become overly sensitive (i.e. small differences between the implied covariance matrix and the observed covariance matrix are magnified, to the effect that it becomes statistically significant) (Hair et al., 2006). To summarize, if the sample size is too small, it makes the statistical test insensitive. If the sample size is too big, it makes the statistical test overly sensitive.

To determine a satisfactory sample size for this study, the Preacher and Coffman syntax was used. The results showed that a minimum sample of 137 (alpha = .05; degrees of freedom = 94; NULL *RMSEA* = .05; ALT *RMSEA* = .08) was required in order to attain a statistical power of .80 for the close fit hypothesis. Complex models frequently need larger samples as a result of increased parameters that need to be estimated. This is to ensure that the results derived from the sample are stable. The ratio of sample size to number of free parameters is another method used to determine a satisfactory sample size for this study. Bentler and Chou's rule of thumb with regard to sample size is that the ratio of sample size to number of free parameters should be 5:1 and 10:1 (Kline, 2011). The calculated free parameters of this study equal 31. Therefore, when applying the rule of thumb of 5:1 and 10:1, it was found that this study's sample size should range between 155 and 310. The study obtained 204 responses, which meets the minimum required sample size.

3.6 Sample Characteristics

The study's sample consisted of all permanently employed, full-time South African employees who were conveniently available and accessible to the researcher. Table 3.1 shows the sample's characteristics in terms of gender, race, and years of service.

Table 3.1

Sample Characteristics

Gender		
Category	Frequency	Percentage
Male	77	38%
Female	127	62%
Race		
Category	Frequency	Percentage
Black	14	7%
Coloured	12	6%
White	174	86%
Indian	2	1%
Asian	1	0%
Years of Service		
Category	Frequency	Percentage
Less than 6 months	16	8%
Between 1-2 years	71	35%
Between 3-10 years	60	29%
More than 10 years	57	28%

As seen in Table 3.1, the majority of participants were female (62%), whilst 38% were males. In terms of race, most of the respondents were white (86%). This could result in a limitation as the sample's distribution does not correspond with South Africa's racial distribution (Statistics South Africa, 2019). With regard to years of service, the majority of the sample had worked at the same company for between 1-2 years or more.

3.7 Data Collection

The researcher designed the survey and used Stellenbosch University's online survey programme to administer the questions that were to be used for data collection. After the researcher received ethical clearance from the Departmental Ethics Committee and the Stellenbosch Research Ethics Committee, the study's invitation and questionnaire was made available through a link on the researcher's social media platforms. Participants voluntarily chose to complete the survey and were made aware of the purpose of the study, informed consent, what the results would be used for, as well as confidentiality and anonymity issues before taking part in the study.

Only the researcher had access to the submitted surveys. To remind possible participants of the survey, the invitation and questionnaire was made available more than once via the researcher's social media platform. Furthermore, to encourage potential participants to take part in the study, all participants who took part in the study had the option of entering a lucky draw. Participants entered the lucky draw by filling in their cellphone number once the survey had been submitted. There was no connection between the participants' answers and their cellphone numbers. When the data collection process concluded after three months, a participant was randomly chosen to win the prize. All cellphones numbers were deleted after the winner was drawn.

3.8 Evaluation of Research Ethics

Ethical risks emerge when there is interaction with people. Although researchers have the right to do research, it should never be at the expense of others or others' rights (Babbie & Mouton, 2017). The current study was classified as "low risk" as it did not pose any significant risks to participants other than the inconvenience of time requirements. Participation in the study was completely voluntary. No individual was forced to participate. Participants were given the option of withdrawing at any given time in the study without any negative consequences (Babbie & Mouton, 2017).

To ensure that potential participants were able to make an informed decision about participation, an informed consent letter was formulated, and is documented in Appendix 1. All possible risks were communicated to the participants in this document, as well as the information on not harming participants and voluntary participation. Participants were asked to carefully read the statement and sign the document as an indication that they were aware of the risks and voluntarily accepted them (Babbie & Mouton, 2017).

A crucial concern was the protection of the participants' identities. This was important as the survey's responses held the potential to harm people and their reputation in a company if the responses were made public. This study was completely anonymous as no personal identifiers were asked.

The purpose of the study and the utilisation of the study's results were communicated clearly to all participants. The researcher also informed the participants that the study is part of Stellenbosch University's research within the Department of Industrial Psychology.

3.9 Measurement Instruments

In order to quantify the latent variables in the structural model, a measurement instrument for each latent variable was selected or developed where necessary. The selected measurement instruments operationalise the latent variables through indicator variables. In operationalisation, researchers need to specify concrete empirical procedures that will result in the measurement of latent variables. This section will discuss the six chosen measuring instruments, as well as each instrument's reliability to justify the choice of the instrument based on previous research. After data collection, each scale was also evaluated in this study through item analysis, confirmatory factor analysis (CFA), and, where necessary, exploratory factor analysis. The detailed results will follow in Chapter 4.

3.9.1 Empowering Organisational Culture

The researcher found it very difficult to obtain a suitable scale for Empowering Organisational Culture in the public domain. None of the scales matched the definition of Empowering Organisational Culture used in this study. The researcher therefore decided to design an Empowering Organisational Culture scale based on the definition used in this study. The scale was tested through item analysis and dimensionality analysis. These findings will be discussed in Chapter 4. All items were answered on a five-point Likert scale measuring a respondent's agreement with several statements. Based on Empowering Organisational Culture that is characterised by autonomy, flexibility, employee involvement and employee ownership, the following draft items were formulated:

In this organisation:

1. Participation in decision-making is encouraged.
2. Employees are able to make decisions freely.
3. Skills development is done among lower level staff to support decision-making at lower levels.
4. Information about organisational decisions is shared with all employees.
5. Employees are encouraged to take initiative.
6. Flexibility is a strong organisational value
7. Skills and knowledge are more important than seniority when making decisions.
8. Employees are encouraged to take responsibility for the quality of their own work.
9. Employees are, as far as legally permitted, provided the resources to make decisions on their own.

3.9.2 Job Characteristics

The Job Diagnostic Survey (JDS) which is based on the Job Characteristics theory, directly measures the five Job Characteristics, three psychological states and outcomes of the theory. A revised version of the JDS was developed and is genuinely preferred as it is more psychometrically sound in terms of the Job Characteristics items. The job diagnostics revised version (JDS-R) was therefore used to measure Job Characteristics. This study was only interested in measuring the three Job Characteristics that lead to the experience of Work Meaningfulness. The Job Characteristics include: Skill Variety, Task Identity and Task Significance. Consequently, only sections one and two of the JDS-R were used. Sections one and two comprised fifteen items. Section one included five items, while section two included ten items. All answers were reported on a seven-point Likert scale. The average score was then calculated for each job characteristic and can be compared to South African norms. A satisfactory reliability mean was indicated across different studies as $\alpha > .7$ (Boonzaier et al., 2001).

3.9.3 Job Crafting

The Job Crafting questionnaire (JCQ) was used to measure Job Crafting. Task, Relational and Cognitive Crafting was measured by utilising five items each, therefore fifteen items in total. Participants were requested to indicate to what extent they are engaged in Job Crafting. The responses were recorded on a six-point Likert scale. The Task Crafting items have a reliability of .87. The Relational Crafting items have a reliability of .89, while the Cognitive Crafting items have a reliability of .83 (Slemp & Vella-Brodrick, 2013).

3.9.4 Person Environment Fit

To quantify Person-Job (P-J) fit and Person-Organisation (P-O) fit, the two measures Person–Job Fit Scale (PJFS) and Person–Organisation Fit Scale (POFS) which form part of the Perceived Person Environment Fit Scale (PPEFS) was used. Both approaches of the P-J fit, namely: the demand-abilities match and the need-supplies match were measured. The POFS measures two dimensions, values and goals. This study emphasises values, therefore only values were measured. The PJFS and the POFS both consist of four items. Reliability of the PJFS is .90 and the POFS is .94. All the items were answered on a five-point Likert scale. The researcher therefore used eight items from the Perceived Person Environment Fit Scale (PPEFS) (Chuang et al., 2016).

3.9.5 Sense of calling as work belief

To measure a Sense of Calling, the Calling and Vocation Questionnaire (CVQ) was utilised. The questionnaire measures a “presence of calling” and a “search for calling” in terms of a)

transcendent summons, b) purposeful work, and c) prosocial orientation. This study only used the “presence subscale” as the study wanted to gauge the extent which a person was currently experiencing calling, and not their inclination to search for calling. The presence of calling was reflected through three 4-item scales, therefore 12 items. Answers were recorded on a four-level response scale, ranging from “1 = Not at all true of me” to “4 = Absolutely true of me”. The CVQ–presence subscale has obtained a Cronbach reliability coefficient of .89 and a total test-retest Cronbach reliability coefficient of .75 (Dik et al., 2012)

3.9.6 Work Meaningfulness

The Psychological Meaningfulness Questionnaire was used to measure Work Meaningfulness. The scale measures the amount of meaning one attaches to one’s work-related activities. Six items were used and responses were given on a seven-point Likert scale. Reliability is reported to be .90 (May et al., 2004).

3.10 Statistical Analysis

In this section, the study’s statistical analysis techniques will be discussed. These procedures entailed item analysis, exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modeling (SEM). Item analysis and exploratory factor analysis (EFA) were used to test for internal consistency and unidimensionality. Confirmatory factor analysis (CFA) was used to assess the factor structures of the multidimensional scales and to evaluate the comprehensive measurement model. Finally, the comprehensive structural model that specifies the structural relationships between the latent variables was tested by using structural equation modeling (SEM).

3.10.1 Missing Values

Ideally researchers would want their surveys to be fully completed but unfortunately researchers are often confronted with survey items or questions that remain unanswered because participants fail to answer them (Bless, Higson-Smith & Sithole, 2013). Dealing with missing data is important as missing data can compromise the study and distort findings. The first step in dealing with missing data is investigating whether the missing data is randomly scattered throughout the dataset or if a pattern can be identified. Another factor to take into account is the extent to which data is missing (Hair et al., 2006).

The randomness of the missing data can be categorized into “missing data at random” (MAR), “missing completely at random” (MCAR) or “not missing at random” (NMAR). It is important for the researcher to understand the three categories to determine the appropriate method of dealing with the missing data. “Not missing at random” is the category that poses the biggest

threat as a nonrandom pattern of missing values exist. Researchers are usually unable to detect this nonrandom pattern and are forced to use their subjective judgment to deal with the missing values (Hair et al., 2006).

A sample of 204 respondents completed the 85-item questionnaire. As a result, the final dataset contained 11 832 item responses, of which 46 data points were missing. This means there were 0.39% missing data points in total. Twenty-two respondents failed to fully complete the questionnaire. Majority of the respondents left out 1 item which is equivalent to 1,72% of the questionnaire. There was however 1 respondent that failed to fill in 25,86% (15 items) of the questionnaire.

It was established that the missing values could be categorized into the “missing completely at random” (MCAR) type as no relationship was found between the missingness of Y and X variables. Typical methods of dealing with missing data is the listwise deletion method, where incomplete cases are deleted from the data, or the variable deletion method, where variables with missing data are deleted. The consequences of these methods are that the sample size is reduced, which impacts the study’s statistical power, and that valuable data is lost which could influence the study’s results (Jönsson & Wohlin, 2004).

Another option of dealing with missing values is the imputation method. This method does not require missing data to be removed, but instead replaces the missing values with substitute values, therefore increasing the amount of data that can be used (Jönsson & Wohlin, 2004). A few imputation methods exist, but this study made use of the hot deck imputation method and will therefore only be discussing this method. The hot deck method replaces missing data with values from similar observations in the sample (Hair et al., 2006). The hot deck method is further specified to the k-Nearest Neighbour (k-NN) method. The k-Nearest Neighbour (k-NN) method is a common form of the hot deck method and uses values to fill missing data by evaluating the values’ neighbours (complete cases) (Jönsson & Wohlin, 2004). As a result of the k-Nearest Neighbour (k-NN) imputation method, all the missing values were dealt with.

3.10.2 Item analysis

The researcher used item analysis to evaluate whether the designated items of each scale reflect a common underlying factor. By doing an item analysis, the researcher could identify which items are problematic. The problematic items are the items that do not measure the same latent variable; or do not discriminate between different levels of latent variables (Foxcroft & Roodt, 2013). The researcher needed to decide whether to eliminate the problematic items or not. The decision to eliminate items was based on evidence that can be found by examining the item-characteristic statistics (Foxcroft & Roodt, 2013). These include

item-total correlations, the squared multiple correlation, scale reliability and variance when an item is deleted, and inter-item correlations.

To measure the construct's reliability, the researcher examined the Cronbach alpha coefficient. The closer the Cronbach alpha value is to 1.0, the better, as this indicates a good internal consistency of the items in the scale. As a rule of thumb, an internal consistency value of .7 is deemed as acceptable (Gliem & Gliem, 2003). Note that though the discussion of the item analysis precedes that of the dimensionality analysis (to be discussed below), the two analyses were done together – the Cronbach's alpha test for reliability assumes unidimensionality, while the item analysis results informs conclusions about the underlying factor structure.

3.10.3 Dimensionality Analysis Using Exploratory Factor Analysis

Three of the constructs (i.e. Empowering Organisational Culture, Sense of Calling, and Meaningfulness) were operationally defined as unidimensional. To confirm the unidimensionality of the measures, exploratory factor analysis was used. A scale is unidimensional when a single factor accounts for the variance among the items. This is expected when the scale is designed to measure a single latent variable (Hair et al., 2006).

Exploratory factor analysis (EFA) tests unrestricted factor models without a priori specified model (Kline, 2011). The goal is usually to find a model that fits the data and can be supported from a theoretical perspective. Therefore, the EFA is used to answer the following questions: how many factors are there, are the factors correlated, which variables best measure each factor; and can the factor structure be supported theoretically (Schumacker & Lomax, 2016)? This approach is often used for the development of new measures. EFA can also be used to test the researcher's expectation about a fixed number of factors, thereby paralleling confirmatory factor analysis (CFA). As explained above, in the current study, EFA was used to confirm the unidimensionality of the three scales designed to measure a single latent variable.

In terms of choosing between the principal components analysis (PCA) and principal axis factor analysis (PAFA), the researcher chose to use the PAFA method. This method extracts factors only from shared variability, whereas the PCA method extracts factors from all variances available. Furthermore, the researcher decided to use the oblique rotation method in order for the factors to be allowed to correlate (Spicer, 2011).

Various statistics were used to determine the unidimensionality of the three scales. Firstly, the researcher examined the Kaiser-Meyer-Olkin (KMO) value and the Bartlett's Test of Sphericity. The KMO is a measure of sampling adequacy and is used to gain insights into the

factorability (Spicer, 2011). The KMO value ranges from zero to one. Ideally, the researcher would want a value above .5 as this indicates the structure is acceptable for factor analysis (Spicer, 2011). The Bartlett's Test of Sphericity indicates that sufficient correlations between variables exist (Pallant, 2013). The researcher typically wishes for the Bartlett's Test of Sphericity to be statistically significant (sig. <.50) in order for the factor analysis to be thought of as appropriate (Pallant, 2013).

Furthermore, the researcher evaluated the eigenvalues and scree plot. Eigenvalues refer to the amount of variance accounted for by one factor. Generally, researchers are only interested in eigenvalues of 1.0 or more. This is known as the “eigenvalue rule”. The scree test plots eigenvalues to establish a pattern of the extracted factors. A number of factors are extracted before unique variances overrule the common variance structure. The scree plot usually shows a clear elbow with eigenvalues that are clearly bigger than the others and typically, researchers are only interested in the number of factors that lie above the elbow. These are the factors that contribute the most to the explained data variance. Ideally, only one factor should lie above the elbow. This means the variable measures one factor and, consequently, the scale is unidimensional (Pallant, 2013).

The researcher also looked at the variance extracted, the standardised root mean square residuals and the factor loadings. The variance extracted explains the amount of variance the measure has in common with its latent construct (Hair et al., 2006). It is also referred to as communalities. Ideally, one would want the variance extracted to be more than .5 (Hair et al., 2006). The standardized root mean square residuals (*SRMR*) indicate the typical size of the residuals (Hooper et al., 2008). This statistic gives the average of differences between the sample’s covariance matrix and the hypothesised covariance matrix (Hooper et al., 2008). The desired *SRMR* value should be close to zero as the closer the value is to zero, the better the fit. As a rule of thumb, .08 is deemed acceptable. Any values above .1 indicate a problem with the fit (Hair et al., 2006). Another important consideration is factor loadings. Factor loadings are the reflection of relationships between the manifest variable and the latent construct (De Bruin, 2018; Hair et al., 2006). Higher factor loadings indicate the manifest variables are good indicators of the latent construct. A good benchmark for the size of factor loadings is .5 or higher, and ideally .7 or higher. Factor loadings below .3 indicate the researcher should consider removing that item (De Bruin, 2018; Hair et al., 2006).

3.10.4 Confirmatory factor analysis (CFA)

Whereas EFA was used to test the unidimensionality of the individual scales, confirmatory factor analysis (CFA) in Lavaan was used to evaluate each multidimensional scale to determine whether the scale’s indicators do indeed measure the relevant underlying

constructs in the manner specified. CFA does this by testing the specified relationships between a set of manifest variables and latent variables against the observed data. The results of the CFA therefore serve as a confirmatory test of the extent to which the researcher succeeded in operationalising the three multidimensional constructs, namely Job Characteristics, Job Crafting and Person Environmental Fit.

The researcher examined the following fit indices to evaluate the measurement scales: root mean square error of approximation (*RMSEA*), standardized root mean square residual (*SRMR*), the goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*), the factor loadings, the average variance extracted and the construct reliability (Hair et al., 2006). The root mean square error of approximation (*RMSEA*) and the standardised root mean square residual (*SRMR*) measure the size of discrepancies between the observed covariance matrix and the hypothesized covariance matrix. The *RMSEA* measures the difference between the hypothesized model, with optimal chosen parameter estimates, and the population's covariance matrix. The *SRMR* measures the difference between the residuals of the sample's covariance matrix and the hypothesized covariance matrix. The differences would therefore need to be close to zero to indicate close fit. Research suggests that ideal cut-off points would include a *RMSEA* value of close to or below .06. Values below .08 are considered reasonable and values above .10 are considered a poor fit. The *SRMR* value should ideally be close to or below .08 (Hooper et al., 2008; Moore, 2014; Schreiber et al., 2006).

The goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*) measures how closely the model can imitate the observed covariance matrix (Diamantopoulos & Siguaw, 2000). Recommended cut-off points for the *gfi* and *agfi* are .90 or above. A value of .9 or above indicates a well fitted model (Hooper et al., 2008).

Once the researcher was satisfied with the fit, the factor loadings, as well as the average variance extracted and construct reliability were evaluated in keeping with Moore's (2014) recommendation. As mentioned previously, ideally factor loadings should be above the criteria of .5 and the average variance extracted should be .5 or more (Hair et al., 2006).

Following the evaluation of the individual multidimensional scales, the overall measurement model, including all the latent variables and their respective indicators, was evaluated as a comprehensive test of the measurement properties of the model applying the same criteria as discussed above. The next section describes the evaluation of the comprehensive measurement model, followed by the structural model, in more detail.

3.10.5 Structural equation modelling

Structural equation modelling (SEM) has become a popular technique used by researchers in the social sciences (Hooper, Coughlan & Mullen, 2008). SEM combines two popular multivariate techniques, namely: factor analysis and multiple regression analysis (Hair et al., 2006). It is a technique that can include independent and dependent variables, as well as latent constructs that are observable through clusters of indicator variables (Savalei & Bentler, 2010). This technique is useful in testing relationships between latent and observed variables to consequently test theories. CFA is used as a procedure within SEM to evaluate the comprehensive measurement model before evaluating the comprehensive structural model. The measurement model evaluates how well the chosen instruments measure the constructs they are supposed to measure. Once the researcher is satisfied with the measurement model, the structural model is evaluated to describe the relationships between the latent variables (Weston & Gore, 2006).

Before using SEM to fit the comprehensive measurement and structural model, the decision to use parcels or individual items as indicators representing the latent variables must first be discussed. Parcelling can be explained as combined indicators that encompass the average of two or more items (Little et al., 2005). This study made use of individual items as indicators for the unidimensional scales (Savalei & Bentler, 2010). The researcher chose to keep the modelled data as close to participants' responses as possible. By using item indicators, possible sources of misspecification would be easier to examine (Little et al., 2005). However, parcels were created for the multidimensional scales to indicate the scales' dimensions or subscales. By using item parcelling, the model's complexity was reduced (Savalei & Bentler, 2010). Indicators that measure the same dimension of the latent variable were grouped together to reduce the chance of residuals correlating and dual loadings emerging. Consequently, the fit of the model would increase as the effects of nuisance factors were minimised (Little et al., 2005). Parcels were created for the following multidimensional scales: Job Characteristics (JC) (3 parcels); Job Crafting (Craft) (3 parcels) and Person Environment Fit (Fit) (2 parcels).

In addition, the researcher decided to treat variables as continuous data even though the variables were measured on Likert scales which represent ordinal scales. This specification was done in order to be able to use CFA and SEM (Byrne, 2013).

3.10.5.1 Evaluation of the measurement model

The quality of the measurement model is an important consideration before proceeding to test the comprehensive structural model. Poor fit of the measurement model raises questions about the measurement part of the structural model which, in turn, blurs the interpretation of

the structural part, representing the relationships between the latent variables (Hair et al., 2006). The researcher would have to first refine the measures again. In summary, the scales had to show good fit and adequate factor loadings for the comprehensive structural model to be tested.

To evaluate the comprehensive measurement model, the researcher examined the fit statistics and the standardised indicator loading estimates. The fit statistics included the root mean square error of approximation (*RMSEA*), standardised root mean square residual (*SRMR*), the goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*). The same cut-off values as discussed above applied. The standardised indicator loading estimates are evaluated by examining the size of the loadings and their statistical significance. A good cut-off value for the size of the indicator loadings is .5 (Hair et al., 2006). Values of .5 or above suggest each item was a satisfactory indicator of its latent factor. To evaluate the statistical significance, a *z* value above the point of 1.96 is suggested, as well as a *p* value below .05 (Weston & Gore, 2006).

3.10.5.2 Evaluation of the structural model

After the researcher was satisfied with the comprehensive measurement model, the researcher evaluated the comprehensive structural model. The comprehensive structural model which comprises the measurement model and the structural model was fitted by examining the covariance matrix, using the Robust Maximum Likelihood estimation technique (RML) in Lavaan.

The measurement part of the model describes the hypothesised structural relationships between the latent variables and their corresponding item indicators, while the structural part refers to the hypothesised structural relations between the latent variables (Diamantopoulos & Siguaw, 2000). The aim of assessing the comprehensive structural model is to assess whether the model is a plausible representation of reality. Researchers have agreed that to determine whether the structural model reflects the observed data, fit should be evaluated by analysing the fit indices, the significance and strength of the estimated parameters and the variance accounted for in endogenous variables (Weston & Gore, 2006).

Firstly, the researcher examined the Chi Square value. This statistic measures whether the model is an exact fit to the data. A non- significant Chi Square ($p > .05$) indicates the model fits the data perfectly, but this is rarely the case. The Chi Square is usually found to be significant ($p < .05$) which indicates the model does not fit the data perfectly. Other fit indices should be evaluated to examine close fit of the model (Hair et al., 2006; Weston & Gore, 2006).

The root mean square error of approximation (*RMSEA*) and the standardised root mean square residual (*SRMR*) were evaluated next. The researcher required a value of close to zero as smaller values indicate better fit. Suggested cut-off points include a value of close to or below .06. for the *RMSEA* and a value of close to or below .08 for the *SRMR* (Schreiber et al., 2006; Weston & Gore, 2006).

In addition, the comparative fit index (CFI) was also considered. This statistic assumes the latent variables have no relationship and then compares the covariance matrix against this "null model". The value ranges from 0 to 1, but researchers want the value to be closer to 1 as this indicates better fit. A good cut-off criteria for the CFI is above .95, with .9 being considered as acceptable (Hooper et al., 2008).

The goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*) measures were also examined. Suggested cut-off points for the *gfi* and *agfi* are .90 or above. A value of .9 or above indicates a well fitted model (Hooper et al., 2008).

Some researchers have, however, criticised the close fit hypotheses test, and few seem to report the *p* value in their findings. Marsch, Hau & Wen (2004) criticised Hu and Bentler's (1999) for their rigid and stringent cutoff values when assessing fit. Using these stringent cutoff values could result in a Type 1 error where "acceptable" models are rejected incorrectly. Researchers should therefore avoid the temptation of treating the available rules of thumb as golden rules. Data interpretation is a subjective process that requires the researcher to delve into their research. It is therefore important to evaluate a basket of evidence and remember to not be fixed on a single fit index (Marsh, Hau & Wen 2004).

The interpretation of the structural model fit includes an evaluation of the structural parameter estimates. Each structural path represents the impact one latent variable has on another (Schreiber et al., 2006). The path coefficients are partial regression coefficients, meaning that it describes the relationship between two variables, while the effect of the third variable is held constant (Babbie & Mouton, 2017).

For the model's paths to be considered valid, the parameter estimates need to meet certain requirements. The researcher evaluated the following statistics to inspect the parameter estimates' validation. Firstly, the statistical significance of the paths was evaluated by examining the *p* value ($p < .05$) and *z value*s (above 1.96) (Lavee, 1988; Weston & Gore, 2006). Secondly, the direction and size of the path coefficient was also analysed. The path coefficients need to be in the predicted direction, as hypothesised. Greater than zero indicates a positive relationship, while less than zero indicates a negative relationship (Hair et al., 2006). The size of the path coefficient represents the strength of the relationship between variables

(Babbie & Mouton, 2017). Lastly, the variance extracted from each independent variable was evaluated. This explains how much of the variance in the dependent variable is explained by the independent variables. A rule of thumb for the average variance extracted is .5 (Hair et al., 2006).

3.11 Conclusion

Chapter 3 discussed the methodology used to test the validity of this study's hypotheses. To summarise Chapter 3, the overarching substantive hypothesis stated that the proposed structural model on Work Meaningfulness provides a valid explanation of Work Meaningfulness in the workplace. The overarching substantive hypothesis was broken up into path-specific hypotheses that represent the causal relationships between specific variables. In addition, the chapter mentioned that an *ex post facto* design, and more specifically a correlational research design, was utilised. Furthermore, the make up of the sample was discussed. The target population for this study was all permanently employed, full-time South African employees. The sampling population was chosen based on accessibility and convenience. A non-probability convenience sampling method was used, and 204 responses were obtained through the use of electronic surveys.

Finally, explanation was given on how the researcher evaluated the measurements instruments and structural models. This was done through item analysis, confirmatory factor analysis (CFA), exploratory factor analysis and structural equation modeling (SEM). The findings are discussed in Chapter 4.

CHAPTER 4: RESULTS

4.1 Introduction

The objective of this study was to increase the understanding of Work Meaningfulness, identify factors that influence Work Meaningfulness, and finally to develop a structural model to explain the overall psychological mechanism. Chapter 1 outlined the background on Work Meaningfulness and motivated why it is an important construct within the organisational setting. Chapter 2 proposed a structural model that represents the researcher's theory on what factors influence Work Meaningfulness. Chapter 3 defined the methodology used to test the validity of this study's hypotheses. Chapter 4's purpose is to report on the empirical evidence found, based on the methodology followed in Chapter 3.

This chapter starts with an evaluation of the measurement scales. Thereafter, the comprehensive model's fit indices, the estimates for the indicator loadings, and the structural parameter estimates will be examined. Structural equation modelling (SEM) in Lavaan gave rise to the comprehensive structural model results which comprises the measurement model parameter estimates and the structural model fit indices and parameter estimates.

4.2 Measurement Scales

Before examining the comprehensive structural model, the measurement scales that operationalise the latent variables was evaluated. An item and dimensionality analysis was conducted on each scale. In the sections to follow, the results for each scale is reported. The results of item analysis indicated whether there were any inconsistent items which could be considered for removal. The researcher made use of exploratory factor analysis and confirmatory factor analysis to obtain insight into the theoretical structure and psychometric properties of the scales. Exploratory factor analysis (EFA) was conducted on three of the scales, purported to be unidimensional, to confirm the extraction of a single factor while confirmatory factor analysis (CFA) was used to confirm the factor structures of the multidimensional measures (Hair et al., 2006). By evaluating the measurement scales, the researcher gained insight into how successful each scale was in measuring the latent variables used in the structural model.

4.2.1 Empowering Organisational Culture scale

As mentioned, the researcher decided to design an Empowering Organisational Culture scale as a result of not finding a suitable scale in the public domain. The results of the item analysis and exploratory factor analysis were found to be satisfactory.

4.2.1.1 Item Analysis

The item analysis results showed the Empowering Organisational Culture scale has a Cronbach alpha of .86 which is a good internal consistency value. The closer the Cronbach alpha value is to 1.0, the better. As a rule of thumb, an internal consistency value of .7 is deemed to be acceptable (Gliem & Gliem, 2003).

The item-total correlation indicates whether the items and the overall scale measure the same underlying construct. Ideally, one would want to achieve a high and positive correlation. A positive correlation means the items and the scale measure the same construct. A high correlation refers to the measure being able to discriminate between high and low scores on the scale (Murphy & Davidshofer, 2014). The correlations for the empowering organisation culture scale as seen in Table 4.1 range between .46 and .7, which is satisfactory. In addition, no items indicated that, if deleted, the Cronbach alpha would improve significantly.

Table 4.1

Empowering Organisational Culture scale reliability analysis

Item	Item-total correlation	Alpha if deleted
EPO1	0.69	0.83
EPO2	0.64	0.83
EPO3	0.53	0.84
EPO4	0.46	0.85
EPO5	0.73	0.83
EPO6	0.52	0.85
EPO7	0.52	0.85
EPO8	0.54	0.85
EPO9	0.65	0.83

4.2.1.2 Exploratory Factor Analysis

To determine the factor structure of the newly developed measure, an EFA was performed on the nine-item scale. The EFA was performed using Principal Axis Factor Analysis (PAFA) with oblique rotation method. The EFA results revealed a Kaiser-Meyer-Olkin (KMO) value of 0.88 and a Bartlett's Test of Sphericity test statistic of 672.532 ($df = 36$; $p < .01$) serving as evidence for the factor analysability of the scale. The Eigenvalue-greater-than-one rule in combination with the Scree Plot indicated to the extraction of one factor which accounts for 42% variance of the total variance (Hair et al., 2006). When evaluating the residuals, the standardised root mean square residuals (*SRMR*) had an acceptable value of .05 which indicates there are small differences between the observed correlation matrix and the predicted correlation matrix (De Bruin, 2018). The factor matrix as seen in Table 4.2 indicates that all the factor loadings met

the cut-off criteria of .5 (Hair et al., 2006). This alludes to all the items satisfactorily loading on one factor. Based on the above results, this scale is regarded as unidimensional.

Table 4. 2

Factor Matrix for the Empowering Organisational Culture scale

Item	Factor 1
EPO1	0.76
EPO2	0.72
EPO3	0.58
EPO4	0.50
EPO5	0.81
EPO6	0.56
EPO7	0.54
EPO8	0.59
EPO9	0.70

4.2.2 The Job Diagnostic Survey (JDS)

As mentioned in Chapter 3, the Job Diagnostic Survey (JDS) measures five Job Characteristics, three psychological states and the outcomes of the job characterises theory. This study was only interested in measuring the three Job Characteristics that lead to experienced Work Meaningfulness. Therefore, this scale made use of three subscales: namely, the Skill Variety, Task Identity and Task Significance subscale. Both the item analysis and the confirmatory factor analysis yielded satisfactory results.

4.2.2.1 Item Analysis

Based on the reliability analysis results, all three subscales showed acceptable internal consistency. The Skills Variety subscale had a Cronbach alpha of .79, the Task Identity subscale a Cronbach alpha of .82 and the Task Significance subscale a Cronbach alpha of .81. All three subscales exceeded the cut-off point of .7 (Gliem & Gliem, 2003).

The three subscales item-total statistics showed satisfactory correlations. No items indicated as being problematic. The Skills Variety subscale item-total correlations ranged from .43 to .77. The Task Identity subscale item-total correlations ranged from .57 to .71 and the Task Significance item-total correlations ranged from .63 to .73.

Table 4.3

Skill Variety reliability analysis

Item	Item-total correlation	Alpha if deleted
JC1	0.43	0.93
JC4	0.75	0.61
JC7	0.77	0.57

Table 4.4

Task Identity reliability analysis

Item	Item-total correlation	Alpha if deleted
JC2	0.57	0.84
JC5	0.71	0.70
JC8	0.73	0.68

Table 4.5

Task Significance reliability analysis

Item	Item-total correlation	Alpha if deleted
JC3	0.65	0.77
JC6	0.63	0.78
JC9	0.73	0.69

4.2.2.2 Confirmatory Factor Analysis

In order to determine whether the items of the Skills Variety Subscale, The Task Identity Subscale and the Task Significance Subscale measure the multidimensional construct, Job Characteristics, the following results were evaluated: the absolute fit indices (*RMSEA*, the *gfi* and *agfi*); the factor loadings, the construct reliability and the average variance extracted.

Table 4.6

Goodness of fit statistics for the Job Characteristics scale

RMSEA	*p* value	*gfi*	*agfi*
.072	0.07	0.94	0.88

Based on the results displayed in Table 4.6, the scale obtained close model fit ($p > .05$) and the *RMSEA* has a value of .072 which indicates acceptable fit. The *gfi* has a value of .94 and the *agfi* a value of .88. This is considered a good fit as the criteria of .90 is used to indicate well-fitted models (Hooper et al., 2008; Moore, 2014).

Although not all factor loadings were above the .5 criteria, the *p* values and *z value*s ($z \geq 1.96$) indicated all factor loadings are statistically significant (Weston & Gore, 2006). The factor loadings ranged from 0.45 to 0.97. Item JC1 had a factor loading of .45, but the researcher decided to keep the item as it was statistically significant and close to the criteria of .5 following Hair et al (2006) recommendations. The Skills Variety Subscale accounted for a variance of .65, while both The Task Identity Subscale and the Task Significance Subscale accounted for a variance of .61. These values imply that the Skills Variety latent variable explains .65 of the variances in the Skills Variety Subscale. The Task Identity and Task Significance latent variables explains .61 in their subscales respectively. The variance extracted is therefore deemed satisfactory when compared to the suggested criteria of .5. Based on the overall results of the CFA, an acceptable fit of this scale is concluded.

4.2.3 The Job Crafting Questionnaire

This study used three subscales of the Job Crafting questionnaire (JCQ). The subscales were Task, Relational and Cognitive Crafting. The item analysis and confirmatory factor analysis results were judged as satisfactory.

4.2.3.1 Item Analysis

Two of the subscales obtained a good Cronbach alpha coefficient, while the third subscale obtained a satisfactory Cronbach alpha. Task Crafting had a Cronbach alpha of .83 and Cognitive Crafting a Cronbach alpha of .85 which is deemed to be a good result. Relational Crafting obtained a Cronbach alpha of .75 which is satisfactory (Gliem & Gliem, 2003).

The item-total correlations of the Task Crafting subscale ranged from .46 to .74. As one can see in Table 4.7, there were no poor performing items and the reliability would not significantly have improved if any item was deleted. The Cognitive Crafting subscale showed no poor performing items as the item-total correlations ranged from .55 to .77 and no significant improvement if an item were to be deleted. The Relational Crafting Subscale, as seen in Table 4.9 showed item-total correlations that range from .39 to .58. Even though item “Craft 14” had an item-total correlation slightly lower than the rest, it did not show a significant improvement in reliability if the item were to be deleted. Therefore, the researcher decided to keep item “Craft 14”.

Table 4.7

Task Crafting reliability analysis

Item	Item-total correlation	Alpha if deleted
Craft1	0.66	0.79
Craft2	0.72	0.77
Craft3	0.74	0.76
Craft4	0.58	0.81
Craft5	0.46	0.84

Table 4.8

Cognitive Crafting reliability analysis

Item	Item-total correlation	Alpha if deleted
Craft6	0.72	0.81
Craft7	0.55	0.85
Craft8	0.65	0.83
Craft9	0.77	0.80
Craft10	0.65	0.83

Table 4.9

Relational Crafting reliability analysis

Item	Item-total correlation	Alpha if deleted
Craft11	0.56	0.70
Craft12	0.58	0.69
Craft13	0.56	0.69
Craft14	0.39	0.76
Craft15	0.55	0.70

4.2.3.2 Confirmatory Factor Analysis

The three subscales of Job Crafting were evaluated after performing a CFA. The results obtained from the CFA can be seen in Table 4.10 below.

Table 4.10

Goodness of fit statistics for the Job Crafting scale

RMSEA	*p* value	*gfi*	*agfi*
.076	0.00	0.88	0.83

The *RMSEA* has a value of below .8 which indicates reasonable fit and a *p*-value of .00. The close fit null hypothesis is therefore rejected *(p* < .05). This implies that there is not enough evidence to conclude that the model will fit in the population.

While the other GOF indices did not meet the cut-offs, it still approaches .90 (Hooper et al., 2008). All factor loadings were above the criteria of .5 except item “Craft 14” which had a loading of .46. Although item “Craft 14 was slightly below the criteria, all factor loadings were found to be statistically significant (Hair et al., 2006). The Task, Relational and Cognitive Crafting subscales accounted for a variance of .52,.55 and .40. This means the latent variable, Task Crafting, explains .52 of the variances in the Task Crafting subscale. The Relational Crafting variable explains .55 of the variances in its subscale, while the Cognitive Crafting variable explains .40 of the variances in the Cognitive Crafting subscale. The variance extracted from the Task and Relational Crafting subscales are considered satisfactory when compared to the suggested criteria of .5. Although the varince extracted from the Cognitive Crafting subscale is below the suggested criteria of .5, it still nears .5 and is therefore deemed as reasonable. Based on the overall results, it can be concluded the model achieved acceptable fit.

4.2.4 Perceived Person Environment Fit Scale

The two subscales Person–Job Fit Scale (PJFS) and Person–Organisation Fit Scale (POFS) that is part of the Perceived Person Environment Fit Scale (PPEFS) was used in this study. The item analysis and dimensionality analysis both showed satisfactory results.

4.2.4.1 Item Analysis

The PJFS obtained an acceptable Cronbach alpha of .77, while the POFS obtained a good Cronbach alpha of .80 (Gliem & Gliem, 2003). When examining PJFS item-total correlations in Table 4.11, the values range from .49 to .64. Satisfactory results were obtained as there are no poor performing items. In addition, reliability does not significantly improve if an item were to be deleted. The same applies to the POFS in Table 4.12. The values range from .58

to .7 which show there are no poor performing items and reliability does not significantly increase if an item were to be deleted.

Table 4.11

Person–Job Fit Scale (PJFS) reliability analysis

Item	Item-total correlation	Alpha if deleted
Fit1	0.54	0.73
Fit2	0.49	0.75
Fit3	0.61	0.69
Fit4	0.64	0.67

Table 4.12

Person–Organisation Fit Scale (POFS) reliability analysis

Item	Item-total correlation	Alpha if deleted
Fit6	0.65	0.72
Fit7	0.70	0.66
Fit8	0.58	0.79

4.2.4.2 Confirmatory Factor Analysis

A CFA was performed on the two subscales of the Perceived Person Environment scale. The CFA results, as shown in Table 4.13, revealed a *RMSEA* value of .00 and a *p* value of .96. The RMESA value indicates perfect fit. A close fit model fit was obtained ($p > .05$).

Table 4.13

Goodness of fit statistics for the Perceived Person Environment Fit Scale

RMSEA	*p* value	*gfi*	*agfi*
.00	0.96	0.98	0.96

In addition, the *gfi* and *agfi* both have a value above .9 which also indicate good fit (Hooper et al., 2008; Moore, 2014). In summary, the goodness of fit statistics showed very satisfactory results.

The factor loadings were all statistically significant and ranged from .53 to .83, which is above the .5 criteria (Hair et al., 2006). The two subscales accounted for a variance of .46 and .58. This means the Person-Job fit latent variable explains .46 of the variances in the Person-Job Fit subscale items and the Person-Organisational Fit latent variable explains .58 of the

variances in the Person-Organisational Fit items. The variance extracted is therefore acceptable when compared to the suggested criteria of .5. Overall, the results of the CFA indicate a good fit of this scale.

4.2.5 The Calling and Vocation Questionnaire

To measure a Sense of Calling, this study only made use of the “Presence subscale”. Item analysis and dimensionality analysis was performed on the subscale. Besides item “Call 3” which revealed a questionable item, the analysis yielded satisfactory results.

4.2.5.1 Item Analysis

The Presence subscale revealed a good internal consistency coefficient of .89 (Gliem & Gliem, 2003). When evaluating the item-total statistics in Table 4.14 without item “Call3”, the correlations range from .46 to .80. Satisfactory results were obtained for all items except item “Call3”. Item “Call3” had a negative and low correlation of -.09 which suggest the item does not measure the same common factor as the other items. The item was therefore deleted and as seen in Table 4.14, the deletion resulted in a Cronbach Alpha increase to .92.

Table 4.14

The Presence subscale reliability analysis

Item	Item-total correlation	Alpha if deleted
Call1	0.70	0.87
Call2	0.70	0.87
Call3(reversed)	-0.09	0.92
Call4	0.63	0.87
Call5	0.60	0.88
Call6	0.59	0.88
Call7	0.72	0.87
Call8	0.68	0.87
Call9	0.70	0.87
Call10	0.48	0.88
Call11	0.80	0.86
Call12	0.73	0.87

4.2.5.2 Exploratory Factor Analysis

An EFA of the Presence subscale revealed a Kaiser-Meyer-Olkin (KMO) value of .903 and a Bartlett's Test of Sphericity value of 1296.092 (df = 55; p < .001). This indicates factor analysability of the correlation matrix. Furthermore, one component revealed an eigenvalue of above one and the scree plot complemented this by showing that one factor was extracted. This single factor accounted for 50,9% of the total variance (Hair et al., 2006). The factor

structure supports the single factor extraction as all factor loadings are satisfactorily above .5 as shown in Table 4.15 (Spicer, 2011). The standardised root mean square residuals (*SRMR*) had an acceptable value of .07 which is below the suggested cut-off of .08 (Hair et al., 2006). This means the differences between the observed correlation matrix and the predicted correlation matrix are small. All evidence therefore lead to the conclusion that this scale is unidimensional.

Table 4.15

Factor Matrix for the Presence subscale

Item	Factor 1
Call1	0.74
Call2	0.75
Call4	0.68
Call5	0.63
Call6	0.65
Call7	0.76
Call8	0.71
Call9	0.74
Call10	0.51
Call11	0.85
Call12	0.78

4.2.6 Psychological Meaningfulness Questionnaire

The Psychological Meaningfulness subscale in Psychological Meaningfulness Questionnaire was used to measure Work Meaningfulness. The item analysis and dimensionality analysis revealed good results.

4.2.6.1 Item Analysis

The reliability analysis showed very satisfactory results. An excellent Cronbach alpha of .95 was obtained (Gliem & Gliem, 2003). The item-total statistics also yielded satisfactory results with correlations ranging from .77 to .89. As can be seen below in Table 4.16, the scale's items performed well with no increase in alphas if an item were to be deleted.

Table 4.16

The Psychological Meaningfulness subscale reliability analysis

Item	Item-total correlation	Alpha if deleted
WM1	0.83	0.94
WM2	0.85	0.94
WM3	0.82	0.94
WM4	0.86	0.93
WM5	0.89	0.93
WM6	0.77	0.94

4.2.6.2 Exploratory Factor Analysis

The EFA results showed that the Psychological Meaningfulness scale had a Kaiser-Meyer-Olkin measure of sampling adequacy value .912 and the Bartlett's Test of Sphericity obtained a value of 1139.245 (df = 15; p < 0.01). This serves as evidence of the factor analysability of the scale. The Eigenvalue-greater-than-one rule, as well as the scree plot revealed the extraction of one factor that accounts for 75% of the total variance (Hair et al., 2006). The factor matrix indicated that all items satisfactorily load on one factor with all the factor loadings being larger than .79. The factor structure is shown in Table 4.17. The standardised root mean square residuals (*SRMR*) revealed a satisfactory value of .03, which means the observed correlation matrix and the predicted correlation have very small differences. When evaluating the overall results, the evidence shows that this scale is unidimensional.

Table 4.17

Factor Matrix for the Psychological Meaningfulness subscale

Item	Factor 1
WM1	0.86
WM2	0.88
WM3	0.85
WM4	0.89
WM5	0.92
WM6	0.80

4.3 Measuring instruments validation summary

A summary of the item analysis results obtained from evaluating each instrument is presented in Table 4.18.

Table 4.18

Summary of the Measuring Instruments

Scale	Sample size	Number of items	Cronbach Alpha	Composite reliability score	Number of items deleted
EOC	204	9	.86	-	0
JC	204	9	-	.9	0
-Skills Variety	204	3	.84	-	0
-Task Identity	204	3	.82	-	0
-Task Significance	204	3	.82	-	0
Craft	203	15	-	.9	0
-Task Craft	203	5	.84	-	0
-Cognitive Craft	203	5	.86	-	0
-Relational Craft	203	5	.77	-	0
Fit	204	7	-	.86	0
-Person Job	204	4	.77	-	0
-Person Organisation	204	3	.80	-	0
Call	204	11	.92	-	1
WM	204	6	.95	-	0

Note: EOC =Empowering Organisational Culture; JC = Job Characteristics; Craft =Job Crafting ; Fit = Person Environment Fit ; Call=Sense of calling as work belief; WM = Work Meaningfulness

The summary in Table 4.18 reveals all six scales' reliability coefficients. To determine the overall reliability of the multidimensional scales, the composite reliability score formula was utilised. This formula tends to be used when there are several tests/subtests that measure the same higher order factor (Murphy & Davidshofer, 2014). The formula utilised can be seen below:

$$r_{tt} = 1 - \frac{k - k r_{ttx}}{k + [k^2 - k] r_{ij}}$$

The k represents the number of combined subtests, r_{ttx} refers to the average reliability coefficients and r_{ij} represents the average correlation of the combined subtests.

From Table 4.18, one can conclude that all unidimensional scales, as well as subscales of multidimensional scales, obtained satisfactory Cronbach alpha values. All values were above the cut-off value of .7 (Gliem & Gliem, 2003). Based on the reliability analysis of the Sense of Calling as Work Belief scale, one item was deleted (item "Call3"). No further items were deleted from the other scales. The composite reliability scores of the multidimensional scales also revealed satisfactory results as all reliability coefficients were above the criteria of .7. In

summary, all six scales revealed satisfactory reliability coefficients could therefore be utilised in the study.

4.4 Assessment of the comprehensive measurement model

Before testing the structural model, the comprehensive measurement model was evaluated to ensure the utilised scales and their indicators accurately operationalise the latent variables. Ideally, the measurement model's covariance matrix should replicate the sample covariance matrix as closely as possible (Moore, 2014).

When poor fit is encountered in the comprehensive structural model, it is usually due to misspecification in the measurement model. It is therefore recommended that an acceptable measurement model is confirmed before evaluating and interpreting the structural relationships between the latent variables (Hair et al., 2006; Moore, 2014).

The measurement model was tested by conducting a confirmatory factor analysis (CFA) on the combined indicator-latent variable relationships. To conduct the CFA, the researcher made use of Lavaan and the Robust Maximum Likelihood estimation technique.

4.4.1 Assessment of the fit

To examine model fit, the fit indices of the CFA were examined and interpreted. The fit indices include the root mean square error of approximation (*RMSEA*), standardised root mean square residual (*SRMR*), the goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*) (Hair et al., 2006).

Table 4.19

Goodness of fit statistics for the Comprehensive Measurement Model

RMSEA	*p* (close)	*SRMR*	*gfi*	*agfi*
.07	0.00	.07	0.76	0.65

As indicated in Table 4.19, the *RMSEA* revealed a value of .07 and a *p* value of .00. The model failed the test for close fit as $p < .05$. The *RMSEA* value is an indication of how well the hypothesised model, with optimally chosen parameter estimates, fits the population's covariance matrix. The value of .07 shows reasonable fit as it still falls under the reasonable cut-off point of .08 (Hooper et al., 2008; Moore, 2014; Schreiber et al., 2006). The *SRMR* which measures the difference between the residuals of the sample's covariance matrix and the hypothesised covariance matrix showed a satisfactory value of .07 which is below the cut-off .08 (Hair et al., 2006).

The goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*) indicated a value of .76 and .65. These values are indicative of how well the model was able to imitate the observed covariance matrix (Diamantopoulos & Siguaw, 2000). The values do not meet the recommended cut-offs of above .9.

As discussed previously, it is important not to treat the cut-off points as golden rules, but to evaluate a basket of evidence (Marsh, Hau & Wen 2004). From the above, one can conclude that the measurement model fit was not ideal, but there were fit indices that pointed to the model being a good fit.

4.4.2 Estimates for indicator loadings

To establish whether the indicators are valid measures of their respective latent variables, the indicator estimates were evaluated in terms of size and statistical significance. The size of the indicator estimates represents the strength of the relationship between indicators and the latent variables they purport to reflect (Babbie & Mouton, 2017). Values of .5 or above suggest that the item was a satisfactory indicator of its' respective latent factor (Hair et al., 2006). The statistical significance of the indicator is established by examining the z and *p* values. A *z value* above the cut-off point of 1.96 and a *p* value below .05 is recommended (Weston & Gore, 2006). Table 4.20 contains the indicator loading findings.

Table 4.20

Comprehensive Measurement Model estimates for indicator loadings

Latent Variable	Item	*z value*	*p* value	Indicator Estimates
EPO	EPO1			0.78
	EPO2	16.40	0.00	0.75
	EPO3	8.54	0.00	0.57
	EPO4	6.37	0.00	0.48
	EPO5	12.52	0.00	0.81
	EPO6	7.90	0.00	0.56
	EPO7	6.59	0.00	0.52
	EPO8	5.60	0.00	0.56
	EPO9	7.90	0.00	0.68
Call	Call1			0.78
	Call2	15.40	0.00	0.77
	Call4	8.18	0.00	0.66
	Call5	7.90	0.00	0.60
	Call6	7.68	0.00	0.60
	Call7	10.30	0.00	0.75
	Call8	9.64	0.00	0.71
	Call9	10.32	0.00	0.76
	Call10	6.37	0.00	0.50
	Call11	15.25	0.00	0.83
	Call12	11.45	0.00	0.79
WM	WM1			0.86
	WM2	17.79	0.00	0.89
	WM3	14.75	0.00	0.84
	WM4	15.43	0.00	0.89
	WM5	15.68	0.00	0.91
	WM6	12.09	0.00	0.79
JC	Skills Variety			0.86
	Task Identity	7.50	0.00	0.60
	Task Significance	6.74	0.00	0.63
Craft	Task Craft			0.68
	Cognitive Craft	7.72	0.00	0.81
	Relational Craft	5.30	0.00	0.41
Fit	Person Job			0.80
	Person Organisation	7.88	0.00	0.62

Note: EPO =Empowering Organisational Culture; Call=Sense of calling as work belief; WM = Work Meaningfulness; JC = Job Characteristics; Craft =Job Crafting ; Fit = Person Environment Fit

As seen in Table 4.20, all the indicator estimates, except for two, exceeded the cut-off criteria of .5. The two items that did not meet the cut-off criteria were in close range of .5. The size of the indicator estimates were therefore satisfactory. In addition, all indicator estimates were found to be statistically significant as all *z value*s were above the criteria of 1.96 and all *p* values below .05 (Weston & Gore, 2006). Satisfactory results were obtained in how the instrument's indicators describe their respective latent variables. Consequently, it was decided to proceed with the evaluation on the structural model.

4.5 Assessment of the structural model

The comprehensive structural model is tested by using structural equation modelling (SEM) with the aim of assessing whether the model is found to be a plausible representation of reality. The Robust Maximum Likelihood estimation was used and a covariance matrix was calculated to analyse the model parameter estimates. The covariance matrix simultaneously produces the parameter estimates of the measurement model and the structural model. As stated in the previous section, the measurement part of the comprehensive model describes the latent variables in terms of their specified indicators, whereas the structural part describes relationships among the latent variables (Lavee, 1988). In other words, the proposed structural model portrays the possible causal relationships of the exogenous and endogenous latent variables.

To determine whether the comprehensive structural model reflects the observed data, the fit should be evaluated by analysing the fit indices, the significance and strength of the estimated parameters and the variance accounted for in endogenous variables (Weston & Gore, 2006).

4.5.1 Assessment of the fit

To examine the exact fit null hypothesis, which indicates whether the model provides a perfect account of reality, the chi square statistic was evaluated. The chances of confirming this hypothesis is, however, very slim (Hair et al., 2006). Consequently, the close fit null hypothesis was examined by using the root mean square error of approximation (*RMSEA*) value as an indicator that the sample's covariance matrix, with optimal chosen parameter estimates, overlap with the population's covariance matrix (Hair et al., 2006). Other fit indices that were evaluated to measure the model's fit include the standardised root mean square residual (*SRMR*), the comparative fit index (CFI), the goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*) (Hair et al., 2006).

Table 4.21

Goodness of fit statistics for the comprehensive structural model

Chi Square	df	*p* value	*RMSEA*	*p* (close)	*SRMR*	CFI	*gfi*	*agfi*
1206.00	553	.00	.07	.00	.07	.86	0.75	0.71

A chi square value of 1206.00 (*p* value = .00) and 553 degrees of freedom was obtained. This means the exact null hypothesis was rejected ($p < .05$). This outcome was expected as it is highly unlikely that the model perfectly explains what causes employees to experience Work Meaningfulness in the workplace. Consequently, the close fit null hypothesis was inspected. The *RMSEA* obtained a value of .07 and a *p* value of .00 which indicates the close fit null hypothesis was also rejected ($p < .05$).

The *RMSEA* value of .07 suggests a reasonable fit as the value is below the cut-off point of .08 (Hair et al., 2006). The *SRMR* value of .07 was also below the cut-off point of .08 and was therefore deemed acceptable (Hair et al., 2006). The comparative fit index (CFI) obtained a value of .86. Although this is below the cut-off of .9, the value approached .9 and is therefore regarded as acceptable (Hooper et al., 2008). The goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*), which are measures of absolute fit, were evaluated next. The *GFI* indicates how well the observed covariance matrix can be replicated, whereas the *AGFI* takes into consideration the model's degrees of freedom. Although the *gfi* (.75) and *agfi* (.71) do not exceed the .9 cut-off which indicates a well-fitted model, they do still allude to a reasonable model fit (Hair et al., 2006; Hooper et al., 2008). Upon evaluation of the overall fit statics, it is concluded that, although the model did not obtain close fit, a reasonable fit was obtained.

4.5.2 Structural parameter estimates

In order to determine whether any of the hypothesised relationships are supported by the data, the structural parameter estimates needed to be evaluated. As observed, the structural parameter estimates describe the relationship between the latent variables (Hair et al., 2006). When evaluating the structural parameter estimates, the statistical significance of the paths, the direction and size of the path coefficients, as well as the variance extracted from each independent variable, were assessed. Table 4.22 shows the comprehensive structural model parameter estimates.

Table 4.22

The Work Meaningfulness structural model parameter estimates

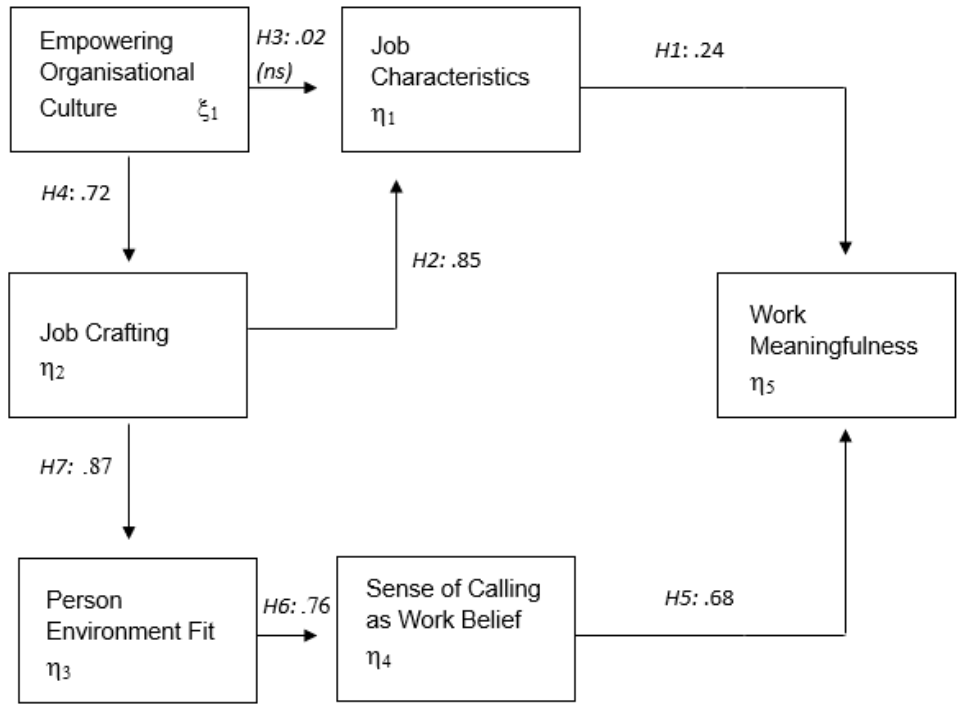
Variables	*Path Coefficients*	*z value*	*P value*
Job Crafting ~ Empowering Organisational Culture	0,71	12,30	<0.001
Person Environment Fit ~ Job Crafting	0,87	14,50	<0.001
Job Characteristics ~ Empowering Organisational Culture	0,02	0,11	0,909
Job Characteristics ~ Job Crafting	0,85	5,60	<0.001
Sense of Calling as Work Belief ~ Person Environment Fit	0,76	11,98	<0.001
Work Meaningfulness ~ Job Characteristics	0,24	2,87	0,004
Work Meaningfulness ~ Sense of Calling as Work Belief	0,67	9,15	<0.001

Six out of the seven parameter estimates were found to be statistically significant. All the parameter estimates, except for the effect of Empowering Organisational Culture (EOP) on Job Characteristics (JC) while holding the effect of Job Crafting constant, had a *z value* below the cut-off point of 1.96 and a *p* value above 0.05 (Weston & Gore, 2006).

The direction (+ or -) of the relationships were found to be in line with what was theoretically hypothesised. Furthermore, the size of path coefficients were mostly satisfactory, ranging from .02 to .87. The effect of Job Characteristics (JC) on Work Meaningfulness (WM) was relatively lower than the other structural paths in the model, but was still found to be statistically significant. As seen, the effect of Empowering Organisational Culture (EOP) on Job Characteristics (JC) while holding the effect of Job Crafting constant, was 0.018. This indicates that Empowering Organisational Culture's (EOP) impact on Job Characteristics (JC), while holding the effect of Job Crafting constant, was non-significant. Empowering Organisational Culture's (EOP) did therefore not explain unique variance in Job Characteristics (JC). Figure 4.1 demonstrates the standardised path coefficients in the proposed structural model. The non-significant path is also indicated in the Figure 4.1.

Figure 4.1

The proposed structural model with path coefficients



Note. Path coefficients are standardised.

The variance extracted represents the proportion of variance that is explained by the underlying latent variable. Values above .5 are usually favoured (Hair et al., 2006). The variance accounted for by the underlying latent variable range from .42 to .75. The model explained a satisfying 75% of the variance found in Work Meaningfulness, the variable of interest.

Overall, satisfactory parameter estimates were obtained. Six out of the seven parameter estimates were found to be statistically significant, the directions of the relationships aligned with what was theoretically hypothesised and majority of the path estimates revealed desired sizes. In addition, the variance extracted showed satisfactory results.

4.5.3 Evaluation of the hypothesised relationships

Based on the findings of the parameter estimates, the seven path specific research hypotheses can be discussed and clarified in line with the statistical hypotheses that were formulated in Chapter 3.

Hypothesis 1: Job Characteristics (Skill Variety, Task Identity and Task Significance) have a positive linear relationship with Work Meaningfulness.

The parameter estimate for the relationship between Job Characteristics and Work Meaningfulness was significant (SEM path coefficient = .24) and in the hypothesised direction. The null hypothesis, H_{01}: $\beta_{51} = 0$, was therefore rejected, in favour of the alternative hypothesis, H_{a1}: $\beta_{51} > 0$.

Hypothesis 2: Job Crafting has a positive linear relationship with Job Characteristics.

Results indicated that the relationship between Job Crafting and Job Characteristics was significant and in the hypothesised direction. Job Crafting does have a positive linear relationship with Job Characteristics (SEM path coefficient = .87). The null hypothesis, H_{02}: $\beta_{12} = 0$, was therefore rejected in favour of the alternative hypothesis H_{a2}: $\beta_{12} > 0$.

Hypothesis 3: Empowering Organisational Culture has a positive linear relationship with Job Characteristics.

The hypothesised path from Empowering Organisational Culture to Job Characteristics was not supported by the data. Empowering Organisational Culture showed a non-significant relationship with Job Characteristics (SEM path coefficient= 0.02). These results were not in favour of the theorised hypotheses. Consequently, the null hypothesis, H_{03}: $\gamma_{11} = 0$ could not be rejected.

Hypothesis 4: Empowering Organisational Culture has a positive linear relationship with Job Crafting.

The parameter estimate for the relationship between Empowering Organisational Culture and Job Crafting was found to be significant and in the theorised direction (SEM path coefficient = .72). Empowering Organisational Culture therefore has a positive linear relationship with Job Crafting. The null hypothesis, H_{04}: $\gamma_{21} = 0$, is therefore rejected in favour of the alternative hypothesis H_{a4}: $\gamma_{21} > 0$.

Hypothesis 5: A Sense of Calling as Work Belief has a positive linear relationship with Work Meaningfulness.

Results showed that a Sense of Calling as Work Belief had a significant relationship with Work Meaningfulness and the relationship was in the hypothesised direction (SEM path coefficient = .68). Hence, the null hypothesis, H_{05}: $\beta_{54} = 0$, was rejected in favour of the alternative hypothesis, H_{a5}: $\beta_{54} > 0$.

Hypothesis 6: Person Environment Fit has a positive linear relationship with a Sense of Calling as Work Belief.

A significant relationship between Person Environment Fit and a Sense of Calling as Work Belief was confirmed. In addition, the relationship was in the theorised direction (SEM path coefficient = .76). This indicated that Person Environment Fit does have a positive linear relationship with a sense of calling as work belief. As such, the null hypothesis, H_{06}: $\beta_{43} = 0$, was rejected in favour of the alternative hypothesis, H_{a6}: $\beta_{43} > 0$.

Hypothesis 7: Job Crafting has a positive linear relationship with Person Environment Fit.

Results indicated that the relationship between Job Crafting and Person Environment Fit was significant and in the hypothesised direction (SEM path coefficient =.87). This means the hypothesis was supported by data. The null hypothesis, H_{07}: $\beta_{32} = 0$, was therefore rejected in favour of the alternative hypothesis, H_{a7}: $\beta_{32} > 0$.

4.5.4 Modification Indices

A Modification index is produced for all the possible parameters that are not estimated. This means these indices show the estimates for all the constructs but excludes the construct it is hypothesized to relate to. The aim is to evaluate possible cross loadings that could potentially increase the model fit (Hair et al., 2006). Modification indexes usually produce an extensive output. This study only identified the largest indices as larger indices indicate that the model fit would improve if the parameters were set free (if the indicators were allowed to load on other latent variables) (Hair et al., 2006).

Various researchers have advised that changes to structural models should not be made based solely on information obtained from the modification indices. Making changes to the structural model requires a theoretical basis, and some researchers have violated the fundamental principle of forming hypothesises before analysing data. (Hair et al., 2006; Lavee, 1988; Weston & Gore, 2006). The purpose of evaluating the modification index in this study was therefore to obtain more information on the model fit. The information would indicate if adding possible structural paths could be useful and meaningful for future research. Table 4.23 shows the modification indices for the different latent variables.

Table 4.23

Modification Indices

Variables	mi	sepc.all
Work meaningfulness ~ Person Environment Fit	21,8937756	0,672976131
Sense of Calling as Work Belief ~ Work meaningfulness	21,4513994	-1,06618098
Person Environment Fit ~ Work meaningfulness	11,6054049	0,464210856
Job Crafting ~ Work meaningfulness	7,47749673	0,345773926
Work meaningfulness ~ Job Crafting	6,8444944	0,439556548
Job Characteristics ~ Work meaningfulness	5,10788726	-0,226054063

Upon evaluation of the largest indices, it was concluded that two pathways could potentially be added to the model if they make sense theoretically. Table 4.32 indicated that a path from Person Environment Fit to Work Meaningfulness and a reciprocal path from Work Meaningfulness to a Sense of Calling as Work Belief could potentially improve the model fit. If the fixed parameter between Person Environment Fit to Work Meaningfulness was to be set free and the model were to be re-estimated, the model's chi-squared value would decrease by 21.89 and the path coefficient would be .67. Furthermore, if the fixed parameter between Work Meaningfulness and a Sense of Calling as Work Belief were to be set free and the model was re-estimated, the path coefficient would be -1.066. Path coefficients usually fall between the range of -1.00 and +1.00 (Chen et al., 2001; Mccoach, 2003). Negative path coefficients and coefficients above 1 are typically referred to as “Heywood cases” (Mccoach, 2003). These values indicate a presence of an inadmissible solution (Mccoach, 2003). Heywood cases could be due to a number of factors which include: small sample size, model misspecification which refer specifically to the omission of paths, outliers that distort the solution or very high or low population correlations which may lead to under identification (Chen et al., 2001; Mccoach, 2003).

Whatever the reason for the inadmissible solution, the reciprocal path seems theoretically plausible. As one experiences more Work Meaningfulness, one’s Sense of Calling as Work Belief increases. The same applies for when one’s Sense of Calling increases, one would experience more meaningfulness in one’s work. This reciprocal path could be explored in future studies. The suggestions made in this chapter are further discussed in Chapter 5.

4.6 Conclusion

The purpose of Chapter 4 was to interpret and report on the results relating to the comprehensive measurement and structural model fit. Before evaluating the comprehensive models, each scale was examined by conducting an item and dimensionality analysis. All six scales were found to be satisfactory and measured their specified latent variables. Furthermore, a confirmatory factor analysis (CFA) was conducted using Lavaan and the Robust Maximum Likelihood estimation technique to test the comprehensive measurement model. After acceptable results were yielded, the structural model was tested using the same programme and estimation technique. This chapter also discussed each of the seven path specific research hypotheses that were formulated in Chapter 3. In addition, the chapter reported on the modification indices. Chapter 5, the final chapter, will discuss the study's general conclusions, limitations, and recommendations for future research.

CHAPTER 5: DISCUSSION AND CONCLUSIONS

5.1 Introduction

Throughout through human history, people have been searching for meaning. As a of consequence of people spending hours at work, the search for meaning has spilled over into the work environment. The search for meaning therefore additionally applies to the life domain of work (Geldenhuys et al., 2014).

The concept Work Meaningfulness refers to the overall level of significance an individual experiences in their work. More broadly, Work Meaningfulness refers to the overall process by which individuals evaluate how important and positive their work is in terms of value (Hackman & Oldham, 1976). When employees do experience Work Meaningfulness, it holds great benefits to the organisation. Work Meaningfulness can influence employees' work satisfaction, their personal engagement and work performance (Hackman & Oldham, 1976). As a result of employees being physically present and involved in their tasks; emotionally attached and dedicated to the job, as well as being more alert and reactive, their performance will increase which impacts the organisation's bottom line (Fouché et al., 2017). It is therefore important for Industrial Psychologists and organisations to understand the concept of Work Meaningfulness for the purpose of improving employee satisfaction and productivity (Woods & West, 2015).

Although many scholars have attempted to develop theories around Work Meaningfulness, it continues to be a domain that requires more research. Integrative models that include the combined factors contributing to Work Meaningfulness is still an aspect that needs more investigation (Rosso et al., 2010). In an attempt to make a contribution to existing research and to better understand the Work Meaningfulness construct, this study focused on investigating factors that cause Work Meaningfulness, as well as evaluating how these factors combine to determine Work Meaningfulness. The research-initiating question therefore emerged as: "What causes employees to experience Work Meaningfulness in the workplace?"

Based on the research question, the following research objectives were set: the first objective of the study was to enhance the understanding of Work Meaningfulness and to identify factors that influence Work Meaningfulness. The second objective was to develop a structural model to demonstrate how these identified factors are interconnected and how they influence Work Meaningfulness. The identified factors included Job Characteristics, Job Crafting, Empowering Organisational Culture, a Sense of Calling as Work Belief and Person Environment Fit.

Chapter 2 presented theoretical arguments to justify the inclusion of certain variables in an interconnected nomological network of factors that are believed to determine Work Meaningfulness. These arguments were then used to develop hypotheses, which lead to the culmination of a structural model. Chapter 3 discussed the methodology that was followed to test the structural model through structural equation modelling (SEM). Chapter 4 reported on the statistical results of the model and the seven path-specific research hypotheses. Chapter 5, the final chapter, concludes with a discussion on the findings of the study. In addition, reflections on limitations, recommendations for possible future research and practical implications to increase Work Meaningfulness in the workplace will are discussed.

5.2 Discussion of Results

The statistical analyses, as well as the findings from the analyses, were presented in Chapter 4. This section summarises the measurement and structural model fit and is followed by a discussion on the overall findings of the study.

5.2.1 Evaluation of the Work Meaningfulness measurement model results

The measurement model's goodness of fit statistics, which includes the root mean square error of approximation (*RMSEA*), standardised root mean square residual (*SRMR*), the goodness of fit index (*gfi*) and the adjusted goodness of fit index (*agfi*) showed the model obtained moderately good fit (Hair et al., 2006). The model did not meet the criteria of $p < .05$, therefore failing the test for close fit. The *RMSEA* value of .07 was however still under the cut-off point of .08, which indicated reasonable fit. The *SRMR* value of .07 was satisfactory. The *gfi* value of .76 and the *agfi* value of .65 did not meet the requirement of above .9. Although there was not enough evidence to imply close fit, when taking into consideration the whole basket of evidence, the model produced satisfactory fit results.

All indicator estimates loaded statistically significant ($p < .05$) on their specific latent variables. In addition, all but two of the indicator estimates, exceeded the cut-off criteria of .5. The two items that did not meet the cut-off criteria were in close range of .5. The size of the indicator estimates were therefore also found to be satisfactory. Lastly, all six scales revealed satisfactory reliability coefficients. The above information shows that indicators described their respective latent variables well and measured what they were meant to measure.

Based on the statistical findings of the measurement model, it was concluded that the model produced a moderately good fit. Consequently, the researcher could continue and test the comprehensive structural model via SEM.

5.2.2 Evaluation of the Work Meaningfulness structural model results

Model fit was evaluated based on the goodness of fit statistics which includes the chi square statistic, the root mean square error of approximation (RMSEA), the standardised root mean square residual (SRMR), the comparative fit index (CFI), the goodness of fit index (gfi) and the adjusted goodness of fit index (agfi). The exact null hypothesis was rejected ($p < .05$) and, as a consequence, the close fit null hypothesis was inspected. The model failed the test for close fit as $p < .05$. The *RMSEA* value of .07 suggested a reasonable fit, while the *SRMR* value of .07 was deemed as acceptable. The *CFI* value of .86 was also considered acceptable as it approaches the recommended value of .9. The *gfi* value of .75 and the *agfi* value of .71 did not meet the recommended value of .9. Although the close fit null hypothesis was rejected, it was concluded that the model nonetheless obtained a reasonable fit.

An evaluation of the parameter estimates revealed that six of the seven hypothesised relationships were found to be statistically significant ($p < .05$). Support was obtained for the influence of Empowering Organisational Culture on Job Crafting; Job Crafting on Person Environment Fit and Job Characteristics; Person Environment Fit on Sense of Calling; and Sense of Calling and Job Characteristics on Work Meaningfulness. The hypothesised path from Empowering Organisational Culture to Job Characteristics was not supported by the data.

In addition, the results indicated that the developed structural model explained a satisfying 75% of the variance in the variable of interest, Work Meaningfulness. Overall, the structural model revealed a reasonable fit.

5.2.3 Interpretation of Results

As previously discussed, the aim of the study was to gain a better understanding of the Work Meaningfulness concept and to find a more universal explanation for the causes of this concept. Certain personal characteristics and organisational features were suggested to be linked with the effect of increasing Work Meaningfulness among employees in organisations. It was hypothesised that discovery of the factors that determine Work Meaningfulness, could lead to the improvement of employee satisfaction and productivity, as well as the avoidance of employee burnout and intention to quit (Woods & West, 2015).

The overarching substantive hypothesis of this study stated that the proposed structural model on Work Meaningfulness provides a valid explanation of what causes employees to experience Work Meaningfulness in the workplace. The overarching substantive hypothesis was broken up into path-specific hypotheses representing the causal relationships between

specific variables. Based on the statistical analysis results, support was obtained for six out of the seven hypotheses.

Firstly, the positive relationship between Job Characteristics and Work Meaningfulness (H_{01}) was found to be statistically significant with a path coefficient of .24. It was argued that the presence of Skill Variety, Task Identity and Task Significance would lead to an increase in the experience of Work Meaningfulness. The study's findings are supported by the Job Characteristics Model developed by Hackman and Oldham (Hackman & Oldham, 1976). In addition Kahn (1990) also argued that Work Meaningfulness can be achieved if jobs provide challenging work, allow the use of a variety of skills and talents, allow employees to make their own decisions and give employees the opportunity to make valuable contributions (Kahn, 1990).

As hypothesised, Job Crafting was found to have a statically significant relationship with Job Characteristics (H_{02}) with a path coefficient of .87. The Job Demands-Resources (JD-R) model supported the findings. The study focused on the three facets of Job Crafting: Task, Relational and Cognitive Crafting. This hypothesis emphasised Task Crafting, which refers to employees being able to drop or add tasks, or adjust the time and effort spent on certain tasks (Kim et al., 2018). Employees could use Job Crafting (Task Crafting) to create more responsibilities for themselves and increase their job stimulation. Alternatively, employees could use Job Crafting (Task Crafting) to decrease the demanding characteristics of their job and buffer the effects of stress and burnout. The model argues that when employees use Job Crafting to increase job resources and decrease job demands, it results in a motivational process which leads to growth, development, engagement and self-actualisation (Bakker & Demerouti, 2017).

The relationship between Empowering Organisational Culture and Job Characteristics (H_{03}), with a path coefficient of 0.02, was not statistically supported. It was argued that an Empowering Organisational Culture that is characterised by power and authority delegation, positively influences Job Characteristics. With the presence of an Empowering Organisational Culture, jobs are designed with more autonomy. This enables the employees to increase their Task Variety, Task Identity and Task Significance (Lee et al., 2017). Evidence for this argument was however not obtained. This finding indicates that simply having an Empowering Organisational Culture does not directly affect the design of a job. Empowering Organisational Culture instead indirectly affects Job Characteristics through Job Crafting. When employees are given autonomy, they have the power to redesign their jobs and craft it to meet their needs.

Results supported the hypothesised relationship between Empowering Organisational Culture and Job Crafting (H_{04}). The relationship was found to be significant with a path coefficient of .72. The study argued that the presence of autonomy, flexibility, employee involvement and employee ownership would make it possible for employees to change certain aspects of their job to suit their own needs, wants and preferences. Evidence obtained supports this reasoning.

A statistical relationship between a Sense of Calling as Work Belief and Work Meaningfulness (H_{05}) emerged. Results supported the hypothesis with a path coefficient of .68. A Sense of Calling is an ongoing process that requires introspection and continuous evaluation of the purpose and meaning of an individual's job, as well as their contribution to society (Rosso et al., 2010). This study focused on the "presence of calling" aspect as the goal was to understand the extent to which a person was currently experiencing calling. By gaining opportunities to act on one's calling, individuals experience more personal fulfilment as they contribute to the greater society. As a consequence, the individual's work is then perceived as more meaningful. This finding appears to be aligned with arguments found in literature. Other researchers argued that people with a Sense of Calling perceive their work as significant. This, in turn, provides people with a sense of purpose in their work which leads to the individual judging their work as meaningful (Rosso et al., 2010; Rothmann & Hamukang'andu, 2013).

Person Environment Fit was hypothesised to have a positive relationship with a Sense of Calling as Work Belief (H_{06}). Results supported this, as it revealed a significant relationship with a path coefficient of .76. This study focused on Person-Job (P-J) fit and Person-Organisation (P-O) fit. The study argued that an individual's calling is influenced by the work they do and the environment in which they work. When an individual's knowledge, skills and abilities align with the job requirements and role expectations, a demand-abilities match occurs. In addition, when the individual's needs, desires and preferences match with what is being supplied in their environment and job, a needs-supplies match exists. These matches may influence how the individual perceives their contribution to others and to society (Edwards et al., 1998). Furthermore, both organisations and individuals have their own unique values that act as a code of conduct. When value congruence exists, individuals are able to express their true selves and act in manner that is consistent with their own beliefs (Chatman, 2011; Rosso et al., 2010). Work has the potential to become morally, socially and personally significant when the individual feels their job contributes to others and society, and when value congruence exists. An individual's belief about their work is likely to change from job or career to a Sense of Calling when an individual experiences Person-Job (P-J) fit and Person-Organisation (P-O) fit. Dik and Duffey (as cited in Rothmann & Hamukang'andu, 2013) support this hypothesis by arguing that people with Person- Job (P-J) fit and Person-Organisation (P-

O) fit will see their work not only as a means to an end but an end in itself and therefore as a calling.

The final hypothesis stated that Job Crafting has a positive relationship with Person Environment Fit (H_{07}). Results indicated that there is indeed a significant relationship between the two variables (SEM path coefficient = .87). The study argues that employees can use Job Crafting as a way to improve Person Environment Fit. Employees can change their perceptions and attitudes towards the organisation, as well as choose to interact more or less with people who live out the company values. This will then increase their identification with the organisation which will enhance the value congruence between the employee and the organisation (Kim et al., 2018).

5.3 Limitations of the study

The study used an *ex post facto* research design. As previously discussed, the limitations of this design include the inability to manipulate independent variables because the independent variables' manifestations have already occurred or are inherently not able to be manipulated, as well as the lack of randomisation and the risk of faulty interpretations. The researcher has less control over the independent variables as a result of not being able to manipulate these variables. Consequently, the researcher is not able to conclude with absolute confidence that the independent variables cause a change in the dependent variable (Kerlinger & Lee, 2000).

Another limitation is the non-probability convenience sampling method. Although this method produced a large number of responses at a low cost, the participants may not be representative of the target population due to the random manner in which participants were chosen. As a consequence, the study's sample cannot necessarily be considered as representative of South Africa's workforce. Using the study's findings to generalise to the target population should therefore be done with reservation.

Furthermore, the language in which the questionnaire was presented is a limitation. The questionnaire was only available in English. South Africa is a very diverse country that has eleven official languages. Due to the questionnaire only being available in English, some participants had to complete the questionnaire in their second language. This may have negatively influenced some participants' understanding of certain concepts and consequently influenced the completion of the questionnaire, as well as the interpretation of the scores.

In addition, common method variance (CMV) could have had an impact on the results. CMV can be referred to as variance due to the methods or scales used, instead of variance due to the constructs being measured (Johnson et al., 2011). CMV can be considered as a limitation

because of the potential impact it may have on the relationships between variables. This measurement error may provide an alternative explanation for the variables' relationships which could, in turn, could have influenced the validity of the study's findings.

The last limitation was the use of self-report questionnaires. Although Babbie and Mouton (2017) reported that the self-report data collection is frequently used in social science, it could have resulted in response bias. Respondents could have unconsciously or consciously created a more favorable impression of themselves and their job, or under-reported on factors that are not socially accepted. This is referred to as social desirable bias (Zikmund et al., 2013).

5.4 Recommendations for future studies

This study only focused on certain chosen factors that lead to Work Meaningfulness. Other researchers could continue further studies by testing other individual and organisational factors that may possibly influence Work Meaningfulness and consequently, result in adding more paths to the structural model. A potential organisational factor to investigate could be co-workers' support or relationships with co-workers. A potential person-factor for investigation could be the general mental stability of an employee or individual. These factors could either positively or negatively influence Work Meaningfulness and contribute to the research on Work Meaningfulness.

Upon evaluation of the structural model, the model could have included some pathways that may have the potential to explain more variance in the latent variable of interest. The modification indices indicated two potential pathways that could add value to the model. The first path was from Person Environment Fit to Work Meaningfulness. This means that Person Environment Fit potentially directly influences Work Meaningfulness. It is possible that if employees experience Person-Job (P-J) fit (in which the employees' individual characteristics and those of the job align), as well as Person-Organisation (P-O) fit (in which the employee's values align with the organisations' values), it is more likely that an employee will experience their work as significant. Employees are able to attach more meaning and significance to their work when they act in a manner that is true to themselves. When value congruence exists, employees live out company values that are aligned with their own values. The same applies for demands-abilities match and needs-supplies match. When the employees' characteristics align with those of the job, employees carry out work that matches their abilities. They might feel that they are able to contribute more through being able to carry out the work that they do.

The second path was a reciprocal path from Work Meaningfulness to a Sense of Calling as Work Belief. This seems to make theoretical sense as the two constructs have aspects in common. The personal growth and Sense of Calling construct relates to the eudainomic approach which is associated with Work Meaningfulness. The approach focuses on self-actualisation, growth, discovering one's potentials and choosing goals that can provide personal meaning and purpose. In addition, people with a Sense of Calling view their work as being significant. When employees experience their work as meaningful, they also find significance in it. The two constructs seem to be interconnected. When you experience the existence of your work calling, you are likely to view your work as being significant. People with a Sense of Calling as Work Belief may feel their work provides them with a sense of purpose as this work contributes to society. The individual's perception of Work Meaningfulness may consequently increase (Hirschi, 2012). Work Meaningfulness may also have an impact on a Sense of Calling as Work Belief. Perceiving your work as meaningful could be a contributing factor in evaluating you work as a calling. When you perceive your work as meaningful, valuable and significant, you are more likely to feel that your work contributes to others and society. This may increase the potential of experiencing your work as a calling (Hirschi, 2012). It is recommended that future research investigates the relationship between these two constructs.

Furthermore, future researchers could exclude a certain pathway which is included in the current model. The path between an Empowering Organisational Culture and Job Characteristics (H_{03}) was found to be insignificant ($p < .05$). Although it was supported by theoretically sound arguments, future research could retest the model without this path.

To supplement the self-report questionnaire which could possibly result in response bias, objective measures could also be used. Objective measures include investigating performance ratings, absenteeism, turnover and productive working hours. The objective measures, coupled with the self-report questionnaire could help identify those are experiencing a low level of Work Meaningfulness.

Another recommendation would be to possibly specify the employment sector in which data is collected. This study used the general South African working population as a sample. One could, for example, expand this study within the health or educational sectors to establish the presence of Work Meaningfulness in specific work sectors and develop interventions to increase this factor.

5.5 Practical Considerations

As discussed in Chapter 2, both the individual and the organisation need to act together to achieve the experience of Work Meaningfulness. The structural model therefore focused on both individual and organisational factors. In order for organisations to increase the experience of Work Meaningfulness, this section discusses some practical guidelines for organisations to consider.

Firstly, information sessions should be held with management to inform them what Work Meaningfulness is and its possible impact on the organisation. These information sessions should aim to raise awareness on the construct of Work Meaningfulness and include tips on how to promote this within the organisation (Welsh & Rothman, 2016). By increasing Work Meaningfulness, it is likely that employees will be more satisfied. When employees are more satisfied, employee turnover and absenteeism will potentially decrease, together with a consequent increase in both performance and productivity (Fouché et al., 2017). Managers will be able to utilise the developed structural model to evaluate and improve Work Meaningfulness among employees.

Work Meaningfulness could be promoted by focusing on Person-Job (P-J) fit and Person-Organisation (P-O) fit. This could be achieved through recruitment and selection, as well as training and development (Welsh & Rothman, 2016). During the recruitment and selection process, companies could make use of ability assessments or work samples to measure the candidates' knowledge, skills and abilities (KSAs). Ideally, you would want to hire candidates whose KSAs align with the job requirements (Chatman, 2011; Kristof, 1996). By using assessments to measure a candidate's KSAs, you are likely to address Person-Job Fit. In addition, by conducting interviews and administering personality assessments, you may increase your understanding of the candidate's values (Kristof, 1996). Interviews enable the employer to get to know the candidates better and evaluate their personalities and values. Furthermore, personality assessments will give the employer a glimpse of the candidates' natural preferences. For example, if one of the company's values is performance, the personality profile could indicate whether a candidate is highly conscientious. These two processes, namely the interview and personality assessment, could provide valuable information on how the candidate and the organisation's values align, which will aid in addressing Person-Organisation Fit.

Another way to influence Person-Job Fit is through training and development. Training and development will enable employees to develop or expand their skillsets which could in turn lead to the employee meeting the job requirements. Through upskilling and training, employees will be provided with the opportunity to develop or further enhance the skills and

abilities required in order to meet the demands of the job (Kristof, 1996; Welsh & Rothman, 2016).

From the study's findings, it was established that Person-Environment Fit influences Work Meaningfulness. Researchers have stated that individuals may consider themselves to be more effective when they are able to express their true selves, which is possible when individuals perceive Person-Environment Fit (Rothmann & Hamukang'andu, 2013). One method of improving Person-Environment Fit is through job enrichment. Job Crafting is a way to enrich jobs and may be possible if open and honest discussions with employees take place. This will allow employees to identify where the perceived misfits are and discuss ways to improve the fit (Kooij et al., 2017).

In addition, job crafting workshops should be considered. By holding Job Crafting workshops, employees and managers can brainstorm on ways to better utilise employees' strengths, knowledge, and experience. This relates to the Person-Job Fit, Employees will feel they are able to contribute more if they feel they are capable of doing their work (Kooij et al., 2017). In addition, employees and managers can find ways to combine tasks. By combining existing tasks to form new portfolios or modules, Task Variety and Identity could increase. By increasing Task Variety and Identity, the individual will be required to use a wider variety of skills, as well as complete the given task. By increasing Task Variety and Identity, the job will be enriched and consequently increase Work Meaningfulness (Boonzaier & Boonzaier, 1994).

Lastly, attention needs to be given to the organisational culture. If the organisational culture is not employee-empowering, steps need to be taken to change the culture. The emphasis should be on creating more autonomy and delegating power. Management could start by focusing on transparency when making decisions or when implementing changes. Another recommendation would be to create opportunities for consultation, input and feedback from employees (Lee et al., 2017). Changing the culture of an organisation takes time, thought and planning but it is possible through effective organisational development interventions.

5.6 Conclusion

The study's research-initiating question emerged as "what causes employees to experience Work Meaningfulness in the workplace?" To answer this, two objectives were set. The first objective was to enhance our understanding of Work Meaningfulness and to identify factors that influence the variable of interest. The second objective was to develop a structural model that explains how these identified factors are interconnected and how they influence Work Meaningfulness.

The study identified certain organisational and person variables that contribute to Work Meaningfulness and explained how they contribute to the variable of interest by developing the structural model. Based on the statistical analysis results, supporting evidence was found for the influence of Empowering Organisational Culture on Job Crafting; Job Crafting on Person Environment Fit and Job Characteristics; Person Environment Fit on Sense of Calling; and Sense of Calling and Job Characteristics on Work Meaningfulness. Data did not support the hypothesised path from Empowering Organisational Culture to Job Characteristics.

The researcher believes that the developed structural model that contains both organisational and person factors will contribute positively to current research on Work Meaningfulness and may be used for future research. In addition, the results of the study could be used to enhance employees' experience of Work Meaningfulness and, in turn, increase personal engagement and decrease intention to quit.

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Appendix A: Ethical Clearance Letter (REC)

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NOTICE OF APPROVAL

REC: Social, Behavioural and Education Research (SBER) - Initial Application Form

11 March 2020

Project number: 10280

Project Title: The development and evaluation of a work meaningfulness structural model

Dear Miss Anna Huysamer

Your response to stipulations submitted on 27 November 2019 was reviewed and approved by the REC: Humanities.

Please note the following for your approved submission:

Ethics approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
26 November 2019	25 November 2022

GENERAL COMMENTS:

The researcher is reminded to submit proof of permission from Kap Industrial Holdings when obtained. [ACTION REQUIRED]

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Please use your SU project number (10280) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

FOR CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

Please note that a progress report should be submitted to the Research Ethics Committee: Humanities before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary)

Included Documents:

Document Type	File Name	Date	Version
Research Protocol/Proposal	Jana Huysamer Proposal FINAL	12/06/2019	1
Request for permission Organisational	Consent Form final	13/08/2019	1
Data collection tool	Final Questionnaire Jana 19001339 (1)	13/08/2019	1
Recruitment material	written invitation	13/10/2019	1
Informed Consent Form	Revised SU HUMANITIES Consentelectronic	13/10/2019	1

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

Appendix B: Informed Consent

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STELLENBOSCH UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

THE DEVELOPMENT AND EVALUATION OF A WORK MEANINGFULNESS STRUCTURAL MODEL

You are asked to participate in a research study conducted by Miss Jana Huysamer, from the Industrial Psychology Department at Stellenbosch University. The results obtained will contribute to the completion of a Masters of Commerce degree in Industrial Psychology. The results of this study will contribute to the completion of the thesis component of this postgraduate programme. You were selected as a possible participant in this study because you are a subordinate in an organisation who can give a valuable input to the data gathering process of this study.

1. **PURPOSE OF THE STUDY**

Research has confirmed the vital role of Work Meaningfulness in organisations. Work Meaningfulness affects employees' satisfaction, which in turn affects employee turnover, absenteeism, performance and productivity. It is therefore critical to identify factors that contribute to Work Meaningfulness. It has been argued that an Empowering Organisational Culture, Job Characteristics which specific reference to Skill Variety, Task Significance and Task Identity, Job Crafting, Person Environment Fit and a Sense of Calling as Work Belief all contribute to Work Meaningfulness. In this light, the present study will therefore analyse these factors.

2. **PROCEDURE**

If you volunteer to participate in this study, you will be asked to evaluate yourself, the company you work for and the behaviours of your supervisor / manger by means of filling out a questionnaire. There are no right or wrong responses; we are merely interested in your personal opinions. The completion of the questionnaires will take place at a time and location that is convenient to you and the researcher and would require approximately 35 - 40 minutes of your time.

3. POTENTIAL RISKS AND DISCOMFORTS

Given that you as a subordinate will rate your own perceived Person Environment Fit, presence of sense of calling, Job Crafting, Job Characteristics in terms of Skill Variety, Task Identity and Task Significance, as well as the behaviours of your manager / supervisor, there is a slight risk of discomfort for you due to the knowledge that you are rating yourself and your supervisor / manager. Please note that these responses will be completely confidential and anonymous (a coding system will be used to protect your identity) and no information will be shared with any decision makers in the participating company. The data will only the utilised for research purposes and will not in any way inform any performance management decisions related to you or your manager / supervisor.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Participation in this study has no direct benefit to the individual participant. Feedback on the results of the survey will be provided to the organisations in aggregated form, which participated in this study. The results can show whether the need exists to develop interventions and training programmes in terms of these constructs. It may prove to be beneficial in terms of the recruitment and retention of effective employees, as well as serve as a basis for developing leaders.

5. PAYMENT FOR PARTICIPATION

No payment will be made to participants for taking part in this study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of a coding procedure. The results of this study will be published in the form of a completed dissertation as well as in an accredited journal, but confidentiality will be maintained. Participant's names will not be published.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Jana Huysamer (19001339@sun.ac.za) or Mr F Van der Bank (fvdb@sun.ac.za).

9. **RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development, Stellenbosch University.

CONSENT FORM (please tick the appropriate box):

I hereby consent to voluntarily participate in this study. I agree that my data may be integrated into a summary of the results of all the questionnaires without identifying me personally. ☐

I don't want to participate in this study. ☐